



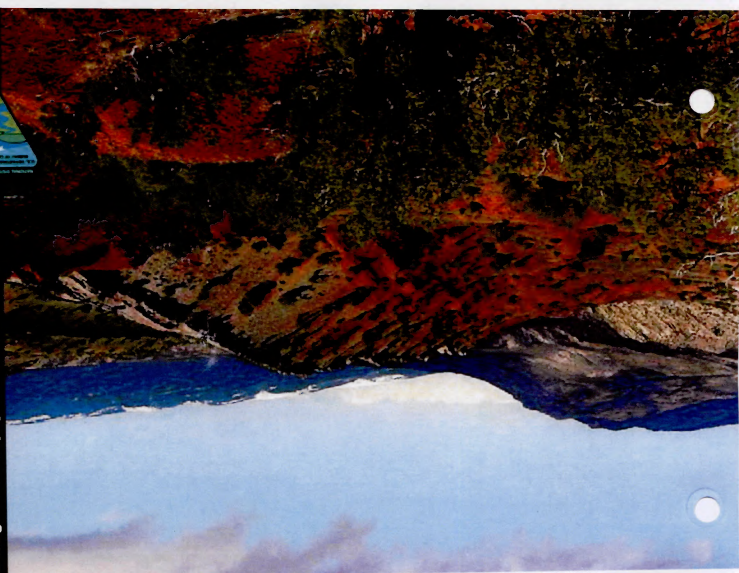
U.S. Department of the Interior
Bureau of Land Management



**Billings and Pompeys Pillar National Monument
Proposed Resource Management Plan
and
Final Environmental Impact Statement**

VOLUME IV

June 2015



BLM/MT/PT-15/004+1610

MISSION STATEMENT
It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times. Management is based on the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation; rangelands; timber; minerals; watersheds; fish and wildlife habitat; wilderness; air; wild horses and burros; and scenic, scientific, cultural, and paleontological values.

Cover Photo by Chuck Ward

Volume 4 of 5**Billings and Pompeys Pillar National Monument
Proposed Resource Management Plan
And
Final Environmental Impact Statement****U.S. Department of the Interior
Bureau of Land Management
Billings Field Office, Montana****June 2015****BLM Library
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The background of the entire page is a photograph of a dark, reddish-brown rock face. It is covered with numerous petroglyphs, which are light-colored markings created by removing mineral material from the rock surface. The petroglyphs include various animal figures, such as deer and horses, and human-like figures in different poses. There are also geometric shapes and lines scattered across the rock face. The text "APPENDICES C-O" is superimposed on the upper portion of this image.

APPENDICES C-O

Appendix C: Oil and Gas Stipulations

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C. Oil and Gas Stipulations

Serial No. MT-12-2

CONTROLLED SURFACE USE STIPULATION

Black-footed Ferret Reintroduction Areas

Surface occupancy or use is subject to the following operating constraints:

Prior to surface disturbance, a surface use plan of operations (SUPO) for oil and gas activities must be approved for black-footed ferret reintroduction areas by the authorized officer in consultation with the U.S. Fish and Wildlife Service (USFWS).

On the lands described below:

For the purpose of: Protect designated black-footed ferret reintroduction habitat areas.

(1984 RMP ROD, Page)

CONTROLLED SURFACE USE STIPULATION

Prairie Dog Colonies

Surface occupancy or use is subject to the following operating constraints.

Prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size and containing 5 burrows per acre will be examined to determine the absence or presence of Black-Footed Ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy that would be in violation of the Endangered Species Act (ESA) of 1973.

The lessee or operator may, at their own option, conduct an examination on the leased lands to determine if Black-Footed ferrets are present, or if the proposed activity will have an adverse effect, or if the area can be cleared. This examination must be done by or under the supervision of a qualified resource specialist approved by the Surface Management Agency (SMA).

An acceptable report must be provided to the SMA documenting the presence or absence of Black-Footed Ferrets and identifying the anticipated effects of the proposed action on the Black-Footed Ferret and its habitat. This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

For the purpose of: Assure compliance with the Endangered Species Act (ESA) by locating and protecting black-footed ferrets and their habitat.

(1984 RMP ROD, Page)

CONTROLLED SURFACE USE STIPULATION

Travel Management

Surface occupancy or use is subject to the following operating constraints.

Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

On the lands described below:

For the purpose of:

- a. To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

CONTROLLED SURFACE USE STIPULATION

Visual Resources Class II areas

Surface occupancy or use is subject to the following operating constraints.

All surface-disturbing activities, semi-permanent and permanent facilities in VRM Class II areas may require special design, including location, painting, and camouflage, to blend with the natural surroundings and meet the visual quality objectives for the area.

On the lands described below:

For the purpose of:

- a. Control the visual impacts of activities and facilities to within acceptable levels.

(1984 RMP ROD, Page XX)

LEASE NOTICE
Cultural Resources Inventories

The Surface Management Agency is responsible for ensuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures.

This notice would be consistent with the present Montana guidance for cultural resource protection related to oil and gas operations (NTL-MSO-85-1).

LEASE NOTICE

Cultural Resources and Lake Mason NWR

Cultural sites are located in the _____, Sec. __ T. __ R. . This parcel is located adjacent to the Lake Mason National Wildlife Refuge.

In accordance with 43 CFR 3101.1-2, additional mitigation may be required in regard to exploration and development.

LEASE NOTICE

Sacred Sites and Historic Properties

Lease is located adjacent to known sacred sites and historic properties, and contains high potential for National Register eligible historic and cultural properties. Lessees are notified that archaeological resource inventory and mitigation costs may be high within this area. A cultural plan of operations will be developed in consultation with the Billings Field Office and must be approved before field development takes place. All surface use plans will be presented to the Billings Field Office archaeologist for review.

On the lands described below:

LEASE NOTICE
Historic Properties

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or compensated.

LEASE NOTICE
Land Use Authorizations

Land Use Authorizations incorporate specific surface land uses allowed on Bureau of Land Management (BLM) administered lands by authorized officers and those surface uses acquired by BLM on lands administered by other entities. These BLM authorizations include rights-of-way, leases, permits, conservation easements, and Recreation and Public Purpose leases and patents.

The rights acquired, reserved, or withdrawn by the BLM for specified purposes include non-oil and gas leases, conservation easements, archeological easements, road easements, fence easements, and administrative site withdrawals. The existence of such land use authorizations shall not preclude the leasing of the oil and gas. The locations of land use authorizations are noted on the oil and gas plats and in LR2000. The plats are a visual source noting location; LR2000 provides location by legal description through the Geographic Cross Reference program.

The specifically authorized acreage for land use should be avoided by oil and gas exploration and development activities. All authorized surface land uses are valid claims to prior existing rights unless the authorization states otherwise.

The right of the Secretary to issue future land use authorizations on an oil and gas lease is reserved by provision of Section 29 of the Mineral Leasing Act, 30 U.S.C.

(1984 RMP ROD, Page XX)

LEASE NOTICE**Paleontological Resource Inventory Requirement**

This lease has been identified as being located within geologic units rated as being moderate to very high potential for containing significant paleontological resources. The locations meet the criteria for Class 3, 4 and/or 5 as set forth in the Potential Fossil Yield Classification System, WO IM 2008-009, Attachment 2-2. The BLM is responsible for ensuring that the leased lands are examined to determine whether paleontological resources are present and to specify mitigation measures. Guidance for application of this requirement can be found in WO IM 2008-009 dated October 15, 2007, and WO IM 2009-011 dated October 10, 2008.

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or project proponent shall contact the BLM to determine whether a paleontological resource inventory is required. If an inventory is required, the lessee or project proponent will complete the inventory subject to the following:

- the project proponent must engage the services of a qualified paleontologist, acceptable to the BLM, to conduct the inventory.
- the project proponent will, at a minimum, inventory a 10-acre area or larger to incorporate possible project relocation which may result from environmental or other resource considerations.
- paleontological inventory may identify resources that may require mitigation to the satisfaction of the BLM as directed by WO IM 2009-011.

LN 14-12
All Field Offices

LEASE NOTICE

Greater Sage-Grouse Habitats

The lease may in part, or in total contain important Greater Sage-Grouse habitats as identified by the BLM, either currently or prospectively. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on the Greater Sage-Grouse populations and habitat quality. Such measures shall be developed during the application for permit to drill on-site and environmental review process and will be consistent with the lease rights granted.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Sprague's Pipit

The lease area may contain habitat for the federal candidate Sprague's pipit. The operator may be required to implement specific measures to reduce impacts of oil and gas operations on Sprague's pipits, their habitat, and overall population. Such measures would be developed during the application for permit to drill and environmental review processes, consistent with lease rights.

If the USFWS lists the Sprague's pipit as threatened or endangered under ESA, the BLM would enter into formal consultation on proposed permits that may affect the Sprague's pipit and its habitat. Restrictions, modifications, or denial of permits could result from the consultation process.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Threatened and Endangered Species and Special Status Species

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid the BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Surface occupancy or use for oil and gas exploration and/or development would be prohibited in the following areas of critical environmental concern:

- Stark Site ACEC
- Weatherman Draw ACEC

For the purpose of:

- a. To protect cultural, paleontological and other resource values for which the ACECs were nominated.

NO SURFACE OCCUPANCY STIPULATION

Bald Eagle Nest Sites

Surface occupancy and use is prohibited within one-half mile of known bald eagle nest sites which have been active within the past 7 years and within bald eagle nesting habitat in riparian areas.

On the lands described below:

For the purpose of: To protect bald eagle nesting sites and/or nesting habitat in accordance with the Endangered Species Act (ESA) and the Montana Bald Eagle Management Plan.

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Coal Leases

Surface occupancy and directional drilling are prohibited within the boundaries of existing coal leases.

On the lands described below:

For the purpose of: To protect lease rights associated with existing coal leases.

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Cultural Sites

Surface occupancy and use is prohibited within sites or areas designated for conservation use, public use, or sociocultural use.

On the lands described below:

For the purpose of: To protect those cultural properties identified for conservation use, public use, and sociocultural use. (see definitions for use categories within BLM Manual 3111).

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Ferruginous Hawk Nests

Surface occupancy and use is prohibited within one-half mile of known ferruginous hawk nest sites which have been active within the past 2 years.

On the lands described below:

For the purpose of: To maintain the production potential of ferruginous hawk nest sites, which are very sensitive to disturbance and have been identified as Category 2 species under the Endangered Species Act (ESA).

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Grouse Leks

Surface occupancy and use is prohibited within one-quarter ($\frac{1}{4}$) mile of grouse leks.

On the lands described below:

For the purpose of: To protect the sharptail grouse and sage grouse lek sites necessary for the long-term maintenance of grouse populations in the area.

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Interior Least Tern

Surface occupancy and use is prohibited within one-quarter ($\frac{1}{4}$) mile of wetlands identified as Interior Least Tern habitat.

On the lands described below:

Objective: To protect the nesting habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within $\frac{1}{4}$ mile of interior least tern nesting habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within $\frac{1}{4}$ mile of interior least tern habitat.

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Paleontological Sites

Surface occupancy and use is prohibited within designated paleontological sites.

On the lands described below:

For the purpose of: Protect paleontological sites.

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Peregrine Falcon Nesting Sites

Surface occupancy and use is prohibited within 1 mile of identified peregrine falcon nesting sites.

On the lands described below:

For the purpose of: Protect the habitat of the peregrine falcon, an endangered species under the Endangered Species Act (ESA).

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Piping Plover

Surface occupancy and use is prohibited within one-quarter mile of wetlands identified as piping plover habitat.

On the lands described below:

For the purpose of: Protect the habitat of the piping plover, an endangered species under the Endangered Species Act (ESA).

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Recreation Areas

Surface occupancy and use is prohibited within developed recreation areas and undeveloped recreation areas receiving concentrated public use.

On the lands described below:

For the purpose of: Protect developed recreation areas and undeveloped recreation areas receiving concentrated public use.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Reservoirs with Fisheries

Surface occupancy and use is prohibited within ¼ mile of designated reservoirs with fisheries.

On the lands described below:

For the purpose of: Protect the fisheries and recreational values of reservoirs.

(1984 RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Riparian Areas and Floodplains

Surface occupancy and use is prohibited within riparian areas, 100-year flood plains of major rivers, and on water bodies and streams.

On the lands described below:

For the purpose of: To protect the unique biological and hydrological features associated with riparian areas, 100-year flood plains of major rivers, and water bodies and streams, and to maintain riparian/wetlands function and water quality.

(1984 RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Big Game Parturition Areas

Surface occupancy or use for oil and gas exploration is prohibited from April 1 through June 15 (Alt A) or from April 1 through July 1 (Alt B) in big game parturition (birthing) areas.

This stipulation does not apply to the operation and maintenance of facilities, unless the findings of analysis demonstrate the continued need for mitigation and that less stringent, project specific mitigation measures would be insufficient.

On the lands described below:

For the purpose of: To protect white-tailed deer, mule deer, elk, antelope, moose, and sage grouse birthing areas from disturbance and facilitate long-term maintenance of wildlife populations.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Elk Spring Calving

Surface use is prohibited within established spring calving range for Elk for the following time period:

- April 1 to June 15

This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

For the purpose of: To protect elk spring calving range from disturbance during the spring use season and to facilitate long-term maintenance of wildlife populations.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Crucial Winter Range

Surface use is prohibited within crucial winter range for wildlife for the following time period:

- December 1 to March 31

This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

For the purpose of: To protect crucial White-Tailed Deer, Mule Deer, Elk, Antelope, Moose, Bighorn Sheep, and Sage Grouse winter range from disturbance during the winter use season, and to facilitate long-term maintenance of wildlife populations.

TIMING LIMITATION STIPULATION

Grouse Nesting Habitat

Surface use is prohibited in grouse nesting habitat within 2 miles of a lek during the following time period:

- March 1 to June 15

This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

For the purpose of: To protect Sharp-tail and Sage Grouse nesting from disturbance during spring and early summer in order to maximize annual production of young and to protect nesting activities adjacent to nesting sites for the long-term maintenance of grouse populations in the area.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Raptor Nest Sites

Surface use is prohibited within one-half mile of Raptor nest sites which have been active within the past 2 years during the following time period:

- March 1 to August 1

This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

For the purpose of: To protect nest sites of Raptors which have been identified as species of special concern.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Black Footed Ferret Habitat

Surface occupancy and use is subject to the following operating constraints:

Prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size will be examined to determine the presence or absence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy that would be in violation of the ESA. The lessee or operator may, at their own option, conduct an examination on the leased lands in order to determine the presence or absence of black-footed ferrets, if the activity would have an adverse effect, or if the area can be cleared. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface managing agency. An acceptable report must be provided to the surface management agency documenting the presence or absence of black-footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat. This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

Purpose: To ensure compliance with the ESA by locating and protecting black -footed ferrets and their habitat.

Waiver: This stipulation may be waived if the entire leasehold is block cleared, permanently cleared based on current or past black-footed ferret surveys, or the black-footed ferret is declared recovered and no longer subject to the ESA.

Exception: An exception may be granted by the AO for surface disturbing activities determined to have no adverse effect on black-footed ferrets and ferret habitat.

Modification: The boundaries of the stipulated area may be modified by the AO if portions of the leasehold are cleared based on current or past black-footed ferret surveys.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Big Game Winter Range

Surface occupancy and use is subject to the following operating constraints:

In CAPS SCORE 1 –Big Game Winter Range, the operator would be required to conduct inventories for the presence of big game or sage grouse in the project area prior to conducting any operations. If big game or sage grouse are found, the following CSU constraint would apply to maintain the habitat, avoid habitat loss and minimize disturbance. This CSU always applies to Big Game Winter Range- SCORE 2, and Prairie Grouse -SCORE 3 (CORE), 4, and 5 areas.

Prior to surface occupancy or use for oil and gas exploration (including geophysical exploration) a plan to maintain big game and/or sage grouse winter range will be prepared by the proponent and implemented upon approval by the authorized officer. Within winter range surface occupancy and use activities will be restricted to one oil and gas surface disturbance per 640 acres of land, with a cumulative disturbance from all activities of no more than 5 percent of the winter range habitat in the 640 acres can be authorized at a time, as long as a functional big game habitat and their associated populations can be maintained. Disturbed areas would have to be fully reclaimed to pre-disturbance conditions or to a desired plant community before additional disturbance could be approved. The plan will address how short-term and long-term direct and indirect effects to winter range will be mitigated based on current science and research (Appendix H). The plan will also include a monitoring protocol.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

On the lands described below:

Purpose: To protect big game and/or sage grouse winter range from loss and degradation, and to facilitate long-term sustainability of wildlife populations by minimizing mortality of animals through disturbance and disruption.

Waiver: This stipulation may be waived, if it is determined through coordination with the appropriate State wildlife agency that wintering animals no longer occupy significant portions of the area and there is no reasonable likelihood of future use as winter range.

Exception: The authorized officer may grant an exception if an environmental review determines that the action, as proposed or conditioned (such as exceeding one surface disturbance per 640 acres of land, or a cumulative disturbance of more than 5 percent of the winter range habitat in the 640 acres of the surface-disturbing and disruptive activity restriction) would not compromise the function of the winter range **or** the proponent and authorized officer agree to **off-site mitigation** according to the "Requirements and/or Guidelines for Wildlife CSU Stipulations," Appendix H.

Modification: The authorized officer may modify the area subject to the stipulation if an environmental analysis finds that a portion of the area no longer contains winter range and populations of wintering animals no longer occupy the area.

(XXXX RMP ROD, Page XX)

Serial No. _____

CONTROLLED SURFACE USE

Lake Mason NWR

Surface occupancy and use is subject to the following operating constraints:

Cultural sites are located in the _____, Section ____ T. ____, R. _____. This parcel is located adjacent to the Lake Mason National Wildlife Refuge.

In accordance with 43 CFR 3101.1-2, additional mitigation may be required in regard to exploration and development.

On the lands described below:

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Sage Grouse Habitat

Surface occupancy and use within all identified sage-grouse habitat is subject to the following operating constraints:

The first intent is to maintain habitat conditions needed to allow small populations in impacted areas to persist, in order to facilitate future recovery of populations. The second intent is to maintain/expand functional habitat to promote sage-grouse movement and genetic diversity, so that sage-grouse habitat areas remain connected to one another in the future.

To minimize the impacts of surface occupancy or use for oil and gas exploration to existing habitat, insure sage-grouse populations persist, insure habitat for future sustainable populations of sage-grouse is maintained and degraded habitat is restored. Oil and gas exploration, including geophysical exploration and geothermal operations, are subject to the following requirements:

- Activities will prevent or minimize disturbance to sage-grouse or their habitat. Except as identified above or during emergency situations, activities will not compromise the functionality of the habitat.
- Continuous noise (related to long-term operations and/or activities) would be no greater than 49 decibels at ¼ mile from the perimeter of the lek.
- Temporary noise (related to installation, maintenance, one-time use, emergency operations, etc.) exceeding 49 decibels at ¼ mile from the perimeter of a lek or surface disturbing/disruptive activities may be allowed, but only from 10 a.m. to 4 p.m. between March 15 and May 15.
- Manage water developments to reduce the spread of West Nile virus within sage-grouse habitat areas.
- Site and/or minimize linear ROW to reduce disturbance to sagebrush habitats.
- Maximize placement of new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Power lines would be buried, eliminated, designed or sited in a manner which does not impact sage-grouse.
- Placement of other high profile structures, exceeding 10 feet in height, would be eliminated, designed or sited in a manner which does not impact sage-grouse.

- Remote monitoring of production facilities must be utilized and all permit applications must contain a plan to reduce the frequency of vehicle use.
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.
- Restore disturbed areas at final reclamation to pre-disturbance conditions or desired plant community.
- Permanent (longer than 2 months) structures which create movement must be designed or sited to minimize impacts to sage-grouse.
- Consider use of off-site mitigation (e.g., creation of sagebrush habitat, purchase conservation easements, or buying down grazing) with proponent dollars to offset habitat losses.
- Consider creation of a “*Mitigation Trust Account*” when impacts cannot be avoided, minimized, or effectively mitigated through other means. If approved by the BLM, the proponent may contribute funding to maintain habitat function based on the estimated cost of habitat treatments or other mitigation needed to maintain the functions of impacted habitats. Off-site mitigation should only be considered when no feasible options are available to adequately mitigate within and immediately adjacent to the impacted site, or when the off-site location would provide more effective mitigation of the impact than can be achieved on-site.

On the lands described below:

Purpose: Within Sage-Grouse Habitat, maintain remnant populations to enable future translocations and to maintain connectivity between sage-grouse habitat areas while still allowing for the permitted uses.

Waiver: This stipulation may be waived, if 1) after consultation with the appropriate State Wildlife agency, it is determined significant portions of the sage grouse habitat have been altered and there is no reasonable likelihood of functional habitat being restored, or 2) sage-grouse are no longer a BLM Special Status Species and are not listed as threatened or endangered by the U.S. Fish and Wildlife Service, or 3) no reasonable alternative development scenario mitigating the impacts is possible.

Exception: The authorized officer may grant an exception to specific requirements of this stipulation if the action, as proposed or conditioned would not compromise the long term functionality of habitat for sage-grouse and meet the goals for sage-grouse habitat or the proponent and authorized officer agree to **off-site mitigation** according to the “Requirements and/or Guidelines for Wildlife CSU Stipulations”, Appendix H.

Modification: The authorized officer may modify the area subject to the stipulation if an environmental analysis finds a portion of the sage grouse habitat is nonessential or is determined to not be potential sage-grouse habitat.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Sage Grouse Winter Range Site Density

Surface occupancy and use is subject to the following operating constraints:

Prior to surface occupancy or use a plan to maintain greater sage grouse winter range will be prepared by the proponent and implemented upon approval by the authorized officer. Within winter range surface disturbing or disruptive activities will be restricted to one surface disturbance per 640 acres of land, with a cumulative disturbance of no more than 5 percent of the sagebrush habitat in the 640 acres can be authorized at a time, as long as a functional sage grouse habitat and their associated populations can be maintained. Disturbed areas would have to be fully reclaimed to pre-disturbance conditions or to a desired plant community before additional disturbance could be approved. The plan will address how short-term and long-term direct and indirect effects to winter range will be mitigated based on current science and research (Appendices AB and H). The plan will also include a monitoring protocol.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

On the lands described below:

Purpose: To protect greater sage grouse winter range from loss and degradation, and to facilitate long-term sustainability of wildlife populations by minimizing mortality of animals through disturbance and disruption.

Waiver: This stipulation may be waived, if it is determined through coordination with the appropriate State wildlife agency that wintering animals no longer occupy significant portions of the area and there is no reasonable likelihood of future use as winter range.

Exception: The authorized officer may grant an exception if an environmental review determines that the action, as proposed or conditioned (such as exceeding one surface disturbance per 640 acres of land, or a cumulative disturbance of more than 5 percent of the sagebrush habitat in the 640 acres of the surface-disturbing and disruptive activity restriction) would not compromise the function of the winter range **or** the proponent and authorized officer

agree to **off-site mitigation** according to the "Requirements and/or Guidelines for Wildlife CSU Stipulations", Appendix H.

Modification: The authorized officer may modify the area subject to the stipulation if an environmental analysis finds that a portion of the area no longer contains winter range and populations of wintering animals no longer occupy the area.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Threatened & Endangered Species and Special Status Species

Surface occupancy and use is subject to the following operating constraints:

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

CONTROLLED SURFACE USE STIPULATION

VRM Class II, III, and IV Areas

Surface occupancy or use is subject to the following operating constraints.

All surface disturbing activities and construction of semi-permanent and permanent facilities in VRM Class II, III, and IV areas may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for each respective class.

On the lands described below:

For the purpose of: To control the visual impacts of activities and facilities within acceptable levels.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Noxious Weeds

Surface occupancy or use is subject to the following operating constraints.

The following noxious weed(s) has been identified within the boundaries of the lease parcel:

On the lands described below:

If operator(s) choose to disrupt/build roads/build facilities on the parcel, then the operator(s) will be responsible for providing an Integrated Weed Management (IPM) plan and the operator will be responsible for the cost of treatment and monitoring throughout the duration of the project.

1. Site Inventories:

- a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
 - b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
 - c. Should include documentation on individual plant locations.
 - d. Must have individual(s) qualified in the identification of invasive species when to conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project, to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
- a. Avoid creating soil conditions that promote weed germination and establishment.
 - b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.

- c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
- d. Inspect material sources before moving infested material to site.
- e. Any and all equipment undercarriage must be power washed prior to entry to the aforementioned parcel and prior to leaving public highways/roads. When temperatures fall below freezing (32°F), high pressure air may be substituted for power washing.
- f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

For the purpose of: To prevent the spread and introduction of noxious weeds and ensure desired results of past treatment(s).

Waiver: The boundaries of the stipulated area to be inventoried for noxious weeds may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities does not contain noxious weed species. Such as during pre-drill/onsite inspection for noxious weed species determines that the area proposed for access and/or the construction of a drill pad has not noxious weeds present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Exception: The stipulation may be waived by the authorized officer if the noxious weed site inventory determines that the lease is found not to have noxious weed species present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Modification: The exception to this stipulation may be granted if BLM determines and if current weed site inventory indicates that the portion of the lease identified for surface disturbing activities does not contain noxious weed(s). If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Historic Properties

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation act (NHPA), American Indian Religious Freedom Act (AIRFA), Native American Graves Protection and Repatriation Act (NAGPRA) and Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modifications to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or compensated.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Travel Management

Surface occupancy or use is subject to the following operating constraints.

Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

On the lands described below:

For the purpose of:

- a. To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

LEASE NOTICE
Cultural Inventory Requirement

An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine whether cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine whether a cultural resource inventory is required. If an inventory is required, then:
2. The SMA will complete the required inventory; or the lessee or operator, at their option may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.
3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Land Use Authorizations

Land Use Authorizations incorporate specific surface land uses allowed on Bureau of Land Management (BLM) administered lands by authorized officers and those surface uses acquired by the BLM on lands administered by other entities. These BLM authorizations include rights-of-way, leases, permits, conservation easements, and Recreation and Public Purposes leases and patents.

The rights acquired, reserved, or withdrawn by the BLM for specific purposes include non-oil and gas leases, conservation easements, archaeological easement, road easements, fence easements, and administrative site withdrawals. The existence of such land use authorizations shall not preclude the leasing of the oil and gas. The locations of land use authorizations are noted on the oil and gas plats and in LR2000. The plats are a visual source noting location; LR2000 provides location by legal description through the Geographic Cross Reference program.

The specifically authorized acreage for land use should be avoided by oil and gas exploration and development activities. All authorized surface land uses are valid claims to prior existing rights unless the authorization states otherwise.

The right of the Secretary to issue future land use authorizations on an oil and gas lease is reserved by provision of section 29 of the Mineral Leasing Act, 30 U.S.C.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Paleontological Resource Inventory Requirement

This lease has been identified as being located within geologic units rated as being moderate to very high potential for containing significant paleontological resources. The locations meet the criteria for class 3, 4 and/or 5 as set forth in the Potential Fossil Yield Classification System. The BLM is responsible for ensuring that the leased lands are examined to determine whether paleontological resources are present and to specify mitigation measures.

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or project proponent must contact the BLM to determine whether a paleontological resource inventory is required. If an inventory is required, the lessee or project proponent must complete the inventory subject to the following:

- the project proponent must engage the services of a qualified paleontologist, acceptable to the BLM, to conduct the inventory.
- the project proponent will, at a minimum, inventory a 10-acre area or larger to incorporate possible project relocation which may result from environmental or other resource considerations.
- paleontological inventory may identify resources that may require mitigation to the satisfaction of the BLM.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Sacred Sites and Historic Properties

Lease is located adjacent to known sacred sites and Historic Properties, and contains high potential for National Register eligible historic and cultural properties. Lessees are notified that archaeological resource inventory and mitigation costs may be high within this area. A cultural plan of operations will be developed in consultation with the Billings Field Office and must be approved before field development takes place. All surface use plans will be presented to the Billings Field Office archaeologist for review.

On the lands described below:

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Invasive Species and Noxious Weeds

There may be noxious weeds present on the lease parcel. Prior to any surface disturbing activities, the operator will be responsible for providing an Integrated Weed Management (IWP) plan. The operator will be responsible for the cost of the treatment and monitoring throughout the duration of the lease as long as oil and gas activities are occurring on the lease.

1. Site Inventories:
 - a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
 - b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
 - c. Should include documentation on individual plant locations.
 - d. Individual(s) qualified in the identification of invasive species must conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project, to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
 - a. Avoid creating soil conditions that promote weed germination and establishment.
 - b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
 - c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
 - d. Inspect material sources before moving infested material to site.
 - e. Any and all equipment undercarriage must be power washed prior to entry and prior to leaving public highways/roads. When temperatures fall below freezing (32°F), high pressure air may be substituted for power washing.
 - f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Stark Site ACEC

Surface occupancy and use for oil and gas exploration and development is prohibited in the following areas of critical environmental concern:

- Stark Site ACEC

Purpose: To protect cultural, paleontological and other resource values for which the ACEC was nominated.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Big Horn Sheep Range

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within bighorn sheep range.

On the lands described below:

Purpose: The protection of bighorn sheep habitat necessary for the long-term maintenance of bighorn sheep populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold can be occupied without adversely affecting bighorn sheep core areas.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Montana FWP, if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Montana FWP, determines that portions of the bighorn sheep core areas can be occupied without adversely affecting bighorn sheep use.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Blue Ribbon Fisheries

Surface occupancy and use is prohibited within one half (½) mile from the centerline of streams containing Class 1 fisheries (Blue Ribbon fisheries).

On the lands described below:

Purpose: To ensure healthy aquatic habitat are maintained along Class 1 fisheries (Blue Ribbon).

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the habitat associated with Class 1 fisheries.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting habitat of Class 1 fisheries.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Caves

Surface occupancy and use is prohibited for oil and gas exploration and development within ½ mile of cave entrances.

On the lands described below:

Purpose: To protect cave and karst resources.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION**Cemeteries**

Surface occupancy and use is prohibited for oil and gas exploration and development within and for a distance of 300 feet from the boundary of a cemetery.

On the lands described below:

There are no known cemeteries on BLM administered surface within the Billings Field Office boundaries. There are four known cemeteries located on private surface/federal mineral estate within the BiFO boundaries.

Cemetery	County	7.5 Map Name
Annherer Spring Grave	Carbon	Dead Indian Hill
Sunrise Cemetery	Carbon	Castagne
Castle Butte Cemetery	Yellowstone	Bull Mountain NW
Cabin Creek Cemetery	Musselshell	Weed Creek West

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Coal Leases

Surface occupancy and directional drilling are prohibited within the boundaries of existing coal leases.

On the lands described below:

Purpose: To protect lease rights associated with existing coal leases.

Waiver: This stipulation may be waived by the authorized officer if it is determined that all coal lease operations within the leasehold have been completed, or if the coal lease is terminated, canceled or relinquished.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan of operations which is compatible with existing or planned coal mining operations and is approved by all affected parties.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that the portions of the area are not needed for existing or planned mining operations, or where mining operations have been completed. An agreement approved by all affected parties must be provided to the Authorized Officer.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Cultural Use Categories

Surface occupancy and use is prohibited for oil and gas exploration and development within National Register eligible sites or areas designated for Conservation Use, Public Use, Traditional Use, or Scientific Use.

On the lands described below:

Purpose: To protect those cultural properties identified for Conservation Use, Public Use, Traditional Use, or Scientific Use. (see definitions in WO IM 2002-101)

There are no waivers, exceptions or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Active Eagle Nests and Eagle Nesting Habitat

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within 1 mile of active eagle nest sites active in the past 7 years and within eagle nesting habitat in riparian areas.

On the lands described below:

Purpose: To protect bald and golden eagle nesting sites and/or breeding habitat in accordance with the Montana Bald Eagle Management Plan and the Bald and Golden Eagle Protection Act

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting eagle nest sites or nesting habitat.

Exception: An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect eagles or their habitat. If the authorized officer determines that the action may have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the USFWS.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that the area can be occupied without adversely affecting eagle nest sites or nesting habitats.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Interior Least Tern

Surface occupancy and use is prohibited within one-quarter (¼) mile of wetlands identified as Interior Least Tern habitat.

On the lands described below:

Objective: To protect the nesting habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of interior least tern nesting habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of interior least tern habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

LWCF Lands

Surface occupancy and use is prohibited for oil and gas exploration and development on lands acquired with Land and Water Conservation Funds.

On the lands described below:

Purpose: To protect surface values on lands acquired with Land and Water Conservation Funds. These lands are traditionally acquired for the purpose of protecting and managing for wildlife habitat or watershed values.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Mountain Plover Nests

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within ½ mile of mountain plover nest.

On the lands described below:

Purpose: To protect mountain plover habitat and to maintain mountain plover populations.

(XXXX RMP ROD, Page XX)

Waiver: The stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting mountain plover habitat.

Exception: An exception to this stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting mountain plover habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting mountain plover habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

National Historic Trails

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of designated National Historic Trails. Designated National Historic Trails include the Lewis and Clark Trail and the Nez Perce (Nee Ne Poo) Trail.

On the lands described below:

Purpose: Preserve and protect designated National Historic Trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

National Register Eligible Sites

Surface occupancy and use is prohibited within, and for a distance of 300 feet from the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the national register of historic places.

On the lands described below:

Purpose: To protect those eligible or potentially eligible cultural properties. (see definitions in WO IM 2002-101)

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Paleontological Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within designated or recorded paleontological sites.

On the lands described below:

Purpose: To preserve and protect significant vertebrate fossils and paleontological locales.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Peregrine Falcon Nests

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within 1 mile of peregrine falcon nesting sites.

On the lands described below:

Purpose: To protect the nesting and breeding habitat of the peregrine falcon, an endangered species under the Endangered Species Act (ESA).

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.

Exception: An exception may be granted by the authorized officer if the operator submits a plan that demonstrates that the proposed action will not affect the peregrine falcon or its habitat. If the authorized officer determines that the action may have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with USFWS.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION
Black-tailed and White-tailed Prairie Dog Habitat

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within ½ mile of black-tailed or white-tailed prairie dog colonies, active within the past 10 years.

On the lands described below:

Purpose: To protect prairie dogs, burrowing owls, mountain plover, and other associated species that utilize prairie dog towns for nesting and breeding habitats.

Waiver: The stipulation may be waived if:

- The AO determines the entire leasehold or area no longer contains habitat for prairie dogs;
- The habitat is not likely to be reoccupied; or

The prairie dog habitat occurs on surfaces managed by an entity other than the BLM, the surface owner requests the activity take place on the prairie dog town, and threatened or endangered species are likely to be negatively impacted through this action.

Exception: An exception may be granted by the AO for activities that are not detrimental to the prairie dog, associated species, or their habitats. A survey for black-footed ferrets may be required if suitable habitat exists for this species.

Modification: The boundaries of the stipulated area may be modified if the AO determines portions of the area are not prairie dog habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Raptor Nests

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited, within ½ mile of raptor nest sites which have been active within the past seven years.

On the lands described below:

Purpose: The protection of reproductive potential of nesting and breeding habitat for special status raptors.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within ½ mile of nest sites.

Exception: An exception to this stipulation may be granted by the authorized officer of the operator submits a plan that demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within ½ mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Recreation Areas

Surface occupancy and use is prohibited for oil and gas exploration and development in the following areas:

- Sundance Lodge Recreation Area
- Four Dances Natural Area ACEC
- Shepherd Ah-Nei Recreation Area
- Acton Recreation Area
- Bundy Island
- South Hills TMA
- Pryor Mountain TMA

Purpose: Protect developed recreation areas and undeveloped recreation areas receiving concentrated public use.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Red Ribbon Fisheries

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (1/2) mile from the centerline of streams containing Class 2 fisheries (red ribbon fisheries).

On the lands described below:

Purpose: To ensure healthy aquatic habitat are maintained along Class 2 fisheries (Red Ribbon).

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the habitat associated with Class 2 fisheries.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting habitat of Class 2 fisheries.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION
Residential Structures and Unincorporated Towns

Surface occupancy and use is prohibited for oil and gas exploration and development within and 500 feet from unincorporated towns or occupied residential structures (structures that are regularly occupied by persons at least 20 hours per week).

On the lands described below:

Purpose: To ensure a proper distance between development and human occupation for health and safety purposes; 500 feet provides for reduced visual intrusion, noise, traffic, and dust.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the public's health and safety.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the public's health and safety.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Riparian, Water, and Fisheries

Surface occupancy and use is prohibited for oil and gas exploration and development within ¼ mile of riparian areas and wetlands, water bodies perennial streams and floodplains of perennial streams.

On the lands described below:

Purpose: To protect the unique biological and hydrological features associated with riparian areas and wetlands, floodplains, and water bodies and streams, and to maintain riparian/wetland function and water quality.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting riparian habitat, aquatic habitat, and water quality.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting riparian habitat, aquatic habitat, and water quality.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Traditional Cultural Properties and Traditional Use Areas

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of the boundaries of cultural properties of particular importance to Native American groups; areas determined to be traditional cultural properties, and/or areas designated for traditional use. Such properties include (but are not limited to) burial locations, plant gathering locations, and areas considered sacred or used for religious purposes.

On the lands described below:

Purpose: To avoid disturbance and to protect archaeological properties of known significance to Native American groups, as well as traditional cultural properties, and the setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Sage Grouse Leks (Restoration Areas and General Habitat Areas)

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within 0.6 mile of sage grouse leks within Restoration Areas and General Habitat areas.

On the lands described below:

Purpose: To protect sage grouse lek sites necessary for the long-term maintenance of grouse populations in the area.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold can be occupied without adversely affecting leks.

Exception: An exception to this stipulated area may be modified if the authorized officer, in consultation with Montana FWP and the USFWS, determines that portions of the area can be occupied without adversely affecting leks.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Montana FWP and the USFWS, determines that portions of the area can be occupied without adversely affecting leks.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Sharp-tailed Grouse Leks

Surface occupancy for oil and gas development (including geophysical exploration) is prohibited within 2 miles of sharp-tailed grouse leks.

On the lands described below:

Purpose: To protect sharp-tailed grouse lek sites, necessary for the long-term maintenance of grouse populations in the area.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold can be occupied without adversely affecting leks.

Exception: An exception to this stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting leks.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting leks.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Soils

Surface occupancy and use is prohibited for oil and gas exploration and development on slopes over 30 percent.

On the lands described below:

Purpose: To maintain soil productivity, provide necessary protection to prevent excessive soil erosion on steep slopes, and to avoid areas subject to slope failure, mass wasting, piping, or having excessive reclamation problems activities and/or habitats.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without excessive soil erosion, slope failure, mass wasting, and piping or steep slopes can be demonstrated.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without excessive soil erosion, slope failure, mass wasting, and piping or steep slopes can be demonstrated.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Special Status Plants

Surface occupancy and use is prohibited for oil and gas exploration and development within one quarter (¼) mile of special status plants species or populations.

On the lands described below:

Purpose: To protect and conserve rare plants associated plant communities and the habitat that supports them.

Waiver: None

Exceptions: None

Modifications: The boundaries of the No Surface Occupancy may be modified if BLM determines that land within ¼ mile of the special status plant population does not provide potential habitat for these species.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Historic Trails

Surface occupancy and use is prohibited for oil and gas exploration and development within ½ mile of the following historic trails: Bridger Cut-Off Trail (all three routes) and the Meeteetse Trail.

On the lands described below:

Purpose: Preserve and protect historic trails and the natural setting in which they occur.

(XXXX RMP ROD, Page XX)

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Yellowstone Cutthroat Trout – Conservation/Core Populations

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of streams containing Montana Fish, Wildlife, and Parks designated conservation and core populations of Yellowstone cutthroat trout.

On the lands described below:

Purpose: The protection of Yellowstone cutthroat trout habitat necessary for the long term maintenance of Yellowstone cutthroat trout populations. To ensure healthy aquatic habitat exists in drainages important to the viability of Yellowstone cutthroat trout

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Yellowstone Cutthroat Trout – Streams with Restoration Potential

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of streams identified by Montana Fish, Wildlife, and Parks as having high restoration potential for Yellowstone cutthroat trout.

On the lands described below:

Purpose: The protection of Yellowstone cutthroat trout habitat necessary for the long term maintenance of Yellowstone cutthroat trout populations. To ensure healthy aquatic habitat exists in drainages important to the viability of Yellowstone cutthroat trout.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout restoration habitat.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout restoration habitat

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Big Game Birthing Areas

Surface use for oil and gas development (including geophysical exploration) is prohibited from April 1 through July 1 within established big game parturition (birthing) habitat.

On the lands described below:

Purpose: To protect white-tailed deer, mule deer, elk, antelope, and moose, and sage grouse birthing areas from disturbance and facilitate long-term maintenance of wildlife populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold no longer contains big game birthing areas.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain birthing habitat for big game species. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sage Grouse Lek Brood Areas (Restoration Areas and General Habitat Areas)

Surface use for oil and gas development (including geophysical exploration) is prohibited from March 1 through June 15 within 4 miles of sage grouse leks, subject to mitigation which maintains suitable sage grouse habitat. Activities would be allowed, if they are consistent with the goals and objectives for the Restoration Area or General habitat Area.

On the lands described below:

This stipulation does not apply to operation and maintenance of production facilities.

Purpose: The protection of sage-grouse leks, breeding and nesting habitat, necessary for the long term maintenance of required sage-grouse populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP and the USFWS, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks or the surrounding breeding habitat.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Montana FWP and the USFWS, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Montana FWP and the USFWS, determines that portions of the area can be occupied without adversely affecting sage grouse leks.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Winter Range

Surface use for oil and gas development (including geophysical exploration) and geothermal operations is prohibited from December 1 through March 31 within CAPS SCORE 1 and 2 areas of big game winter range habitat and sage grouse winter range. Sage grouse winter ranges not identified due to lack of inventories, are delineated by a 4 mile buffer from lek sites.

On the lands described below:

Purpose: The protection of winter range for white-tailed deer, mule deer, elk, antelope, moose, bighorn sheep, and sage grouse from disturbance during the winter season, and to facilitate long-term maintenance of wildlife populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold no longer contains winter/spring range for wildlife.

Exception: An exception to this stipulation may be granted by the authorized officer in consultation with Montana FWP, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Montana FWP, determines that portions of the area no longer contain wildlife winter/spring range. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 through May 15 dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Potential Black-footed Ferret Habitat

Surface occupancy or use is subject to the following operating constraints:

Prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size will be examined to determine the presence or absence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy that would be in violation of the ESA. The lessee or operator may, at their own option, conduct an examination on the leased lands in order to determine the presence or absence of black-footed ferrets, if the activity would have an adverse effect, or if the area can be cleared. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface managing agency. An acceptable report must be provided to the surface management agency documenting the presence or absence of black-footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat. This stipulation does not apply to the operation and maintenance of production facilities.

On the lands described below:

Purpose: To ensure compliance with the ESA by locating and protecting black-footed ferrets and their habitat.

Waiver: This stipulation may be waived if the entire leasehold is block cleared, permanently cleared based on current or past black-footed ferret surveys, or the black-footed ferret is declared recovered and no longer subject to the ESA.

Exception: An exception may be granted by the AO for surface disturbing activities determined to have no adverse effect on black-footed ferrets and ferret habitat.

Modification: The boundaries of the stipulated area may be modified by the AO if portions of the leasehold are cleared based on current or past black-footed ferret surveys.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Big Game Birthing Areas

Surface occupancy or use is subject to the following operating constraints:

Proponent would be required to submit a plan of development to maintain the habitat, avoid habitat loss, and minimize disturbance. The mitigation plan would require authorized officer approval.

This stipulation does not apply to the operation and maintenance of facilities, unless the findings of analysis demonstrate the continued need for mitigation and that less stringent, project specific mitigation measures would be insufficient.

On the lands described below:

Purpose: To protect white-tailed deer, mule deer, elk, antelope, and moose, and sage grouse birthing areas from disturbance and facilitate long-term maintenance of wildlife populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold no longer contains big game birthing areas.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer contain birthing habitat for big game species. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Big Horn Sheep Range

Surface occupancy and use is subject to the following operating constraints:

Surface occupancy or use within bighorn sheep habitat requires a mitigation plan to maintain habitat and avoid habitat loss

On the lands described below:

Purpose: The protection of bighorn sheep designated habitat necessary for the long-term maintenance of bighorn sheep populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold can be occupied without adversely affecting bighorn sheep core areas.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Montana FWP, if the operator submits a plan which demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Montana FWP, determines that portions of the bighorn sheep core areas can be occupied without adversely affecting bighorn sheep use.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Cave and Karsts

Surface occupancy and use is subject to the following operating constraints:

Cave and karst areas would be inventoried prior to oil and gas leasing, exploration, and or development. An approved mitigation plan would be required to avoid impacts to cave resources.

On the lands described below:

Purpose: To protect cave and karst resources.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Interior Least Tern

Surface occupancy and use is prohibited within one-quarter ($\frac{1}{4}$) mile of wetlands identified as Interior Least Tern habitat.

On the lands described below:

Objective: To protect the nesting habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within $\frac{1}{4}$ mile of interior least tern nesting habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within $\frac{1}{4}$ mile of interior least tern habitat.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Historic Trails

Surface occupancy and use is subject to the following operating constraints:

Oil and Gas leasing, exploration, and development would be allowed within ¼ mile of the following historic trails Bridger Cut-Off Trail (all three routes) and the Meeteetse Trail with the following stipulation:

Avoid, minimize, or mitigate adverse effects to historic landscapes surrounding these historic trails as a result of BLM land-use authorizations and to have no net decrease in the value of high-potential segments or sites regardless of NRHP eligibility.

On the lands described below:

Purpose: Preserve and protect historic trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE

Lake Mason NWR

Surface occupancy and use is subject to the following operating constraints:

Cultural sites are located in the _____, Section ____ T. _____, R. _____. This parcel is located adjacent to the Lake Mason National Wildlife Refuge.

In accordance with 43 CFR 3101.1-2, additional mitigation may be required in regard to exploration and development.

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Mountain Plover Habitat

Surface occupancy and use is subject to the following operating constraints:

Surface occupancy or use would be allowed within $\frac{1}{4}$ mile of mountain plover habitat within $\frac{1}{4}$ mile of the nest, subject to the following special operating constraints:

Operational constraints could include off-site production facilities, audio or noise restrictions, and gated access to minimize disturbance to key mountain plover habitats.

On the lands described below:

Purpose: To protect mountain plover habitat and to maintain mountain plover populations.

Waiver: The stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting mountain plover habitat.

Exception: An exception to this stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting mountain plover habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting mountain plover habitat.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

National Historic Trails

Surface occupancy and use is subject to the following operating constraints:

Surface occupancy or use would be allowed within one-half mile of designated National Historic Trails with stipulations. Designated National Historic Trails include the Lewis and Clark Trail and the Nez Perce (Nee Ne Poo) Trail.

Avoid, minimize, or mitigate adverse effects to historic landscapes surrounding these historic trails as a result of BLM land-use authorizations and to have no net decrease in the value of high-potential segments or sites regardless of NRHP eligibility.

On the lands described below:

Purpose: Preserve and protect designated National Historic Trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Prairie Dog Towns

Surface occupancy and use is subject to the following operating constraints:

Surface occupancy or use within black-tailed or white-tailed prairie dog towns is subject to preparing a mitigation plan to maintain suitable habitat.

On the lands described below:

Purpose: To protect prairie dogs, burrowing owls, mountain plover, and other associated Species that utilize prairie dog towns for nesting and breeding habitats.

Waiver: The stipulation may be waived if:

- The AO determines the entire leasehold or area no longer contains habitat for prairie dogs;
- The habitat is not likely to be reoccupied; or

The prairie dog habitat occurs on surfaces managed by an entity other than the BLM, the surface owner requests the activity take place on the prairie dog town, and threatened or endangered species are likely to be negatively impacted through this action.

Exception: An exception may be granted by the AO for activities that are not detrimental to the prairie dog, associated species, or their habitats. A survey for black-footed ferrets may be required if suitable habitat exists for this species.

Modification: The boundaries of the stipulated area may be modified if the AO determines portions of the area are not prairie dog habitat.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Recreation Sites and Areas

Surface occupancy and use is subject to the following operating constraints:

Operations within developed recreation areas and areas receiving high concentrated use would be allowed with a CSU, unless otherwise restricted. Proposed activities may not alter or depreciate important recreational values located outside of developed areas.

On the lands described below:

Purpose: To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity.

There are no waivers, exceptions, or modifications

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Sage Grouse Winter Range Site Density

Surface occupancy and use is subject to the following operating constraints:

Prior to surface occupancy or use a plan to maintain greater sage grouse winter range will be prepared by the proponent and implemented upon approval by the authorized officer. Within winter range surface-disturbing or disruptive activities will be restricted to one surface disturbance per 640 acres of land, with a cumulative disturbance of no more than 5 percent of the sagebrush habitat in the 640 acres can be authorized at a time, as long as a functional sage-grouse habitat and their associated populations can be maintained. Disturbed areas would have to be fully reclaimed to pre-disturbance conditions or to a desired plant community before additional disturbance could be approved. The plan will address how short-term and long-term direct and indirect effects to winter range will be mitigated based on current science and research (Appendix H). The plan will also include a monitoring protocol.

On the lands described below:**Purpose:** To protect greater sage-grouse winter range from loss and degradation, and to facilitate long-term sustainability of wildlife populations by minimizing mortality of animals through disturbance and disruption.

Waiver: This stipulation may be waived, if it is determined through coordination with the appropriate State wildlife agency that wintering sage grouse no longer occupy significant portions of the area and there is no reasonable likelihood of future use as winter range.

Exception: The authorized officer may grant an exception if an environmental review determines that the action, as proposed or conditioned (such as exceeding one surface disturbance per 640 acres of land, or a cumulative disturbance of more than 5 percent of the sagebrush habitat in the 640 acres of the surface-disturbing and disruptive activity restriction) would not compromise the function of the winter range or the proponent and authorized officer agree to **off-site mitigation** according to the "Requirements and/or Guidelines for Wildlife CSU and Exceptions to No Surface Occupancy Stipulations", Appendix H.

Modification: The authorized officer may modify the area subject to the stipulation if an environmental analysis finds that a portion of the area no longer contains winter range and populations of wintering sage grouse no longer occupy the area.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Sharp-tailed Grouse Leks and Nesting Habitat

Surface occupancy and use is subject to the following operating constraints:

Oil and gas exploration and development and geophysical exploration within sharp-tailed grouse lek sites and nesting habitats would be subject to the following constraints: (1) noise from oil, gas and geothermal production facilities would not exceed 49 decibels (10dBa above background noise at the lek site); and (2) operational constraints would include off-site production facilities and gated access to minimize disturbance to sharp-tailed grouse lek sites and nesting habitats.

On the lands described below:

Purpose: To protect sharp-tailed grouse lek sites, necessary for the long-term maintenance of grouse populations in the area.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold can be occupied without adversely affecting leks.

Exception: An exception to this stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting leks.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting leks.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Soils

Surface occupancy or use is subject to the following operating constraints.

Prior to surface disturbance on slopes over 30 percent, an engineering/reclamation plan must be approved by the authorized officer. Such plan must demonstrate how the following will be accomplished:

- Site productivity will be restored;
- Surface runoff will be adequately controlled;
- Off-site areas will be protected from accelerated erosion, such as rilling, gullyng, piping, and mass wasting;
- Water quality and quantity will be in conformance with state and federal water quality laws;
- Surface disturbing activities will not be conducted during extended wet periods; and
- Construction will not be allowed when soils are frozen

On the lands described below:

Purpose: To maintain soil productivity, provide necessary protection to prevent excessive soil erosion on steep slopes, and to avoid areas subject to slope failure, mass wasting, piping, or having excessive reclamation problems activities and/or habitats.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without excessive soil erosion, slope failure, mass wasting, and piping or steep slopes can be demonstrated.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without excessive soil erosion, slope failure, mass wasting, and piping or steep slopes can be demonstrated.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Special Status Plants

Surface occupancy or use is subject to the following operating constraints.

A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species and any known populations or suitable habitat will be provided after the issuance of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at the time of the year when the target species are actively growing and flowering. An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.

On the lands described below:

Purpose: To protect and conserve rare plants associated plant communities and the habitats that support them.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Threatened and Endangered Species and Special Status Species

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Visual Resource Management

Surface occupancy or use is subject to the following operating constraints.

All surface-disturbing activities, semi-permanent and permanent facilities in VRM Class II, areas may require special design, including location, painting, and camouflage, to blend with the natural surroundings and meet the visual quality objectives for the area.

On the lands described below:

Purpose: Control the visual impacts of activities and facilities to within acceptable levels.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Invasive Species and Noxious Weeds

Surface occupancy or use is subject to the following operating constraints.

The following noxious weed(s) has been identified within the boundaries of the lease parcel:

On the lands described below:

If operator(s) choose to disrupt/build roads/build facilities on the parcel, then the operator(s) will be responsible for providing an Integrated Weed Management (IPM) plan and the operator will be responsible for the cost of treatment and monitoring throughout the duration of the project.

1. Site Inventories:
 - a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
 - b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
 - c. Should include documentation on individual plant locations.
 - d. Must have individual(s) qualified in the identification of invasive species when to conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project, to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
 - a. Avoid creating soil conditions that promote weed germination and establishment.
 - b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
 - c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
 - d. Inspect material sources before moving infested material to site.
 - e. Any and all equipment undercarriage must be power washed prior to entry to the aforementioned parcel and prior to leaving public highways/roads. When

temperatures fall below freezing (32°F), high pressure air may be substituted for power washing.

- f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

Purpose: To prevent the spread and introduction of noxious weeds and ensure desired results of past treatment(s).

Waiver: The boundaries of the stipulated area to be inventoried for noxious weeds may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities does not contain noxious weed species. Such as during pre-drill/onsite inspection for noxious weed species determines that the area proposed for access and/or the construction of a drill pad has not noxious weeds present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Exception: The stipulation may be waived by the authorized officer if the noxious weed site inventory determines that the lease is found not to have noxious weed species present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Modification: The exception to this stipulation may be granted if BLM determines and if current weed site inventory indicates that the portion of the lease identified for surface disturbing activities does not contain noxious weed(s). If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Historic Properties

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation act (NHPA), American Indian Religious Freedom Act (AIRFA), Native American Graves Protection and Repatriation Act (NAGPRA) and Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modifications to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or compensated.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Travel Management

Surface occupancy or use is subject to the following operating constraints.

Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

On the lands described below:

For the purpose of:

- a. To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

LEASE NOTICE
Cultural Inventory Requirement

An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine whether cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine whether a cultural resource inventory is required. If an inventory is required, then:
2. The SMA will complete the required inventory; or the lessee or operator, at their option may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.
3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Land Use Authorizations

Land Use Authorizations incorporate specific surface land uses allowed on Bureau of Land Management (BLM) administered lands by authorized officers and those surface uses acquired by BLM on lands administered by other entities. These BLM authorizations include rights-of-way, leases, permits, conservation easements, and Recreation and Public Purposes leases and patents.

The rights acquired, reserved, or withdrawn by BLM for specific purposes include non-oil and gas leases, conservation easements, archaeological easement, road easements, fence easements, and administrative site withdrawals. The existence of such land use authorizations shall not preclude the leasing of the oil and gas. The locations of land use authorizations are noted on the oil and gas plats and in LR2000. The plats are a visual source noting location; LR2000 provides location by legal description through the Geographic Cross Reference program.

The specifically authorized acreage for land use should be avoided by oil and gas exploration and development activities. All authorized surface land uses are valid claims to prior existing rights unless the authorization states otherwise.

The right of the Secretary to issue future land use authorizations on an oil and gas lease is reserved by provision of section 29 of the Mineral Leasing Act, 30 U.S.C.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Paleontological Resource Inventory Requirement

This lease has been identified as being located within geologic units rated as being moderate to very high potential for containing significant paleontological resources. The locations meet the criteria for class 3, 4 and/or 5 as set forth in the Potential Fossil Yield Classification System. The BLM is responsible for ensuring that the leased lands are examined to determine whether paleontological resources are present and to specify mitigation measures.

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or project proponent must contact the BLM to determine whether a paleontological resource inventory is required. If an inventory is required, the lessee or project proponent must complete the inventory subject to the following:

- the project proponent must engage the services of a qualified paleontologist, acceptable to the BLM, to conduct the inventory.
- the project proponent will, at a minimum, inventory a 10-acre area or larger to incorporate possible project relocation which may result from environmental or other resource considerations.
- paleontological inventory may identify resources that may require mitigation to the satisfaction of the BLM.

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Sacred Sites and Historic Properties

Lease is located adjacent to known sacred sites and Historic Properties, and contains high potential for National Register eligible historic and cultural properties. Lessees are notified that archaeological resource inventory and mitigation costs may be high within this area. A cultural plan of operations will be developed in consultation with the Billings Field Office and must be approved before field development takes place. All surface use plans will be presented to the Billings Field Office archaeologist for review.

On the lands described below:

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Invasive Species and Noxious Weeds

There may be noxious weeds present on the lease parcel. Prior to any surface disturbing activities, the operator will be responsible for providing an Integrated Weed Management (IWP) plan. The operator will be responsible for the cost of the treatment and monitoring throughout the duration of the lease as long as oil and gas activities are occurring on the lease.

1. Site Inventories:
 - a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
 - b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
 - c. Should include documentation on individual plant locations.
 - d. Individual(s) qualified in the identification of invasive species must conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project, to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
 - a. Avoid creating soil conditions that promote weed germination and establishment.
 - b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
 - c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
 - d. Inspect material sources before moving infested material to site.
 - e. Any and all equipment undercarriage must be power washed prior to entry and prior to leaving public highways/roads. When temperatures fall below freezing (32°F), high pressure air may be substituted for power washing.
 - f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

ACECs

Surface occupancy and use is prohibited for oil and gas exploration and development in the following areas of critical environmental concern:

- Bridger Fossil Area ACEC
- Grove Creek ACEC
- Meeteetse Spires (acquisition area only)
- Petroglyph Canyon ACEC
- Pryor Foothills RNA ACEC (on known plant sites only)
- Stark Site ACEC
- Weatherman Draw ACEC

Purpose: To protect cultural, paleontological and other resource values for which the ACECs were nominated.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Blue Ribbon Fisheries

Surface occupancy and use is prohibited for oil and gas exploration and development within ¼ mile from the centerline of streams containing Class 1 fisheries (Blue Ribbon fisheries).

On the lands described below:

Purpose: To ensure healthy aquatic habitat are maintained along Class 1 fisheries (Blue Ribbon).

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the habitat associated with Class 1 fisheries.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting habitat of Class 1 fisheries.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION**Cemeteries**

Surface occupancy and use is prohibited for oil and gas exploration and development within and for a distance of 300 feet from the boundary of a cemetery.

On the lands described below:

There are no known cemeteries on BLM administered surface within the Billings Field Office boundaries. There are four known cemeteries located on private surface/federal mineral estate within the BiFO boundaries.

Cemetery	County	7.5 Map Name
Annherer Spring Grave	Carbon	Dead Indian Hill
Sunrise Cemetery	Carbon	Castagne
Castle Butte Cemetery	Yellowstone	Bull Mountain NW
Cabin Creek Cemetery	Musselshell	Weed Creek West

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Coal Leases

Surface occupancy and use is prohibited for oil and gas exploration and development within the boundaries of existing coal leases.

On the lands described below:

Purpose: To protect lease rights associated with existing coal leases.

Waiver: This stipulation may be waived by the authorized officer if it is determined that all coal lease operations within the leasehold have been completed, or if the coal lease is terminated, canceled or relinquished.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan of operations which is compatible with existing or planned coal mining operations and is approved by all affected parties.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that the portions of the area are not needed for existing or planned mining operations, or where mining operations have been completed. An agreement approved by all affected parties must be provided to the Authorized Officer.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Cultural Resource Use Categories

Surface occupancy and use is prohibited for oil and gas exploration and development within National Register eligible sites or areas designated for Conservation Use, Public Use, Traditional Use, or Scientific Use.

On the lands described below:

Purpose: To protect those cultural properties identified for Conservation Use, Public Use, Traditional Use, or Scientific Use. (see definitions in WO IM 2002-101)

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Eagle Nest Sites

Surface occupancy or use for oil and gas development (including geophysical exploration) is prohibited within ¼ mile of active eagle nest sites.

On the lands described below:

Purpose: To protect bald and golden eagle nesting sites and/or breeding habitat in accordance with the Montana Bald Eagle Management Plan and the Bald and Golden Eagle Protection Act.

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting bald or golden eagle nest sites or nesting habitat.

Exception: An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect the bald or golden eagle or its habitat. If the authorized officer determines that the action may have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with the USFWS.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that the area can be occupied without adversely affecting bald or golden eagle nest sites or nesting habitats.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

LWCF Lands

Surface occupancy and use is prohibited for oil and gas exploration and development on lands acquired with Land and Water Conservation Funds.

On the lands described below:

Purpose: To protect surface values on lands acquired with Land and Water Conservation Funds. These lands are traditionally acquired for the purpose of protecting and managing for wildlife habitat or watershed values.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

National Register Eligible Sites

Surface occupancy and use is prohibited within, and for a distance of 300 feet from the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the national register of historic places. This includes cultural properties designated for conservation use, scientific use, traditional use, and public use. Defined archaeological sites, districts, and areas include: Steamboat Butte, Bruder-Janich Site, Paul Duke Site, Demi-John Flat NR District, Bighorn Mouth North Cliffs rock art site, Gyp Springs Site, Hoskins Basin Archaeological District, and the Bandit Site (Wyoming).

On the lands described below:

Purpose: To protect those cultural properties identified for Conservation Use, Public Use, Traditional Use, or Scientific Use. (see definitions in WO IM 2002-101)

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Paleontological Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within designated or recorded paleontological sites.

On the lands described below:

Purpose: To preserve and protect significant vertebrate fossils and paleontological locales including the following designated paleontological sites:

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Peregrine Falcon Nests

Surface occupancy or use for oil and gas development (including geophysical exploration) is prohibited within ¼ mile of active peregrine falcon nesting sites.

On the lands described below:

Purpose: To protect the nesting and breeding habitat of the peregrine falcon, an endangered species under the Endangered Species Act (ESA).

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.

Exception: An exception may be granted by the authorized officer if the operator submits a plan that demonstrates that the proposed action will not affect the peregrine falcon or its habitat. If the authorized officer determines that the action may have an adverse affect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by BLM in consultation with USFWS.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting peregrine falcon nest sites or breeding habitat.

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NO SURFACE OCCUPANCY STIPULATION

Raptor Nests

Surface occupancy or use for oil and gas development (including geophysical exploration) is prohibited within ¼ mile of raptor nest sites which have been active within the past seven years.

This stipulation does not apply to the operation and maintenance of facilities, unless the findings of analysis demonstrate the continued need for mitigation and that less stringent, project specific mitigation measures would be insufficient.

On the lands described below:

Purpose: The protection of reproductive potential of nesting and breeding habitat for special status raptors.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer is within ¼ mile of nest sites.

Exception: An exception to this stipulation may be granted by the authorized officer of the operator submits a plan that demonstrates the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within ¼ mile of raptor nest sites. The dates for the timing restriction may be modified if new information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Residential Structures

Surface occupancy and use is prohibited for oil and gas exploration and development within and 500 feet from unincorporated towns or occupied residential structures.

On the lands described below:

Purpose: To ensure a proper distance between development and human occupation for health and safety purposes; 500 feet provides for reduced visual intrusion, noise, traffic, and dust.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the public's health and safety.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the public's health and safety.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Riparian, Water, and Fisheries

Surface occupancy and use is prohibited for oil and gas exploration and development within riparian areas, water bodies, perennial streams and flood plains of perennial streams.

On the lands described below:

Purpose: To protect the unique biological and hydrological features associated with riparian areas and wetlands, floodplains, and water bodies and streams, and to maintain riparian/wetland function and water quality.

Waivers: None

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: None

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Sacred Sites and Traditional Cultural Properties

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of the boundaries of cultural properties determined to be of particular importance to Native American groups, determined to be traditional cultural properties, and /or designated for traditional use. Such properties include (but are not limited to) burial locations, plant gathering locations, and areas considered sacred or used for religious purposes.

On the lands described below:

Purpose: To avoid disturbance and to protect archaeological properties of known significance to Native American groups, as well as traditional cultural properties, and the setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Sage Grouse Leaks (Restoration Areas and General Habitat Areas)

Surface occupancy or use for oil and gas development (including geophysical exploration) is prohibited within ¼ mile of sage grouse leaks within Restoration Areas and General Habitat areas.

On the lands described below:

Purpose: To protect sage grouse lek sites necessary for the long-term maintenance of grouse populations in the area.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold can be occupied without adversely affecting leks.

Exception: An exception to this stipulated area may be modified if the authorized officer, in consultation with the state wildlife management agency, determines that portions of the area can be occupied without adversely affecting leks.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with the state wildlife management agency, determines that portions of the area can be occupied without adversely affecting leks.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE

State Lands

Surface occupancy and use is prohibited for oil and gas exploration and development within Montana Wildlife Management Areas, Game Ranges, Fishing Access Sites, and State Parks.

On the lands described below:

Purpose: To prevent user conflicts, incompatible uses in areas with high recreational values, provide the opportunity for quality recreation experiences, and to protect habitat suitability.

Waiver: This stipulation may be waived by the authorized officer, in consultation with the State of Montana, determines that the entire leasehold no longer contains a State of Montana management area or leasing is allowed.

Exception: An exception may be granted by the authorized officer, in consultation with the State of Montana, if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be mitigated.

Modification: The boundaries of the area may be modified by the authorized officer, in consultation with the State of Montana; if it is determined the management boundaries can be changed.

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NO SURFACE OCCUPANCY STIPULATION
Unincorporated Towns and Residential Structures

Surface occupancy and use is prohibited for oil and gas exploration and development within and 500 feet from unincorporated towns or occupied residential structures.

On the lands described below:

Purpose: To ensure a proper distance between development and human occupation for health and safety purposes; 500 feet provides for reduced visual intrusion, noise, traffic, and dust.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the public's health and safety.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the public's health and safety.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Wild and Scenic Rivers

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (1/4) mile from the centerline of Eligible Wild and Scenic River segments.

On the lands described below:

Purpose: To protect the eligibility of Wild and Scenic River segments.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting WSR eligibility.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without affecting eligibility of WSR segments.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Yellowstone Cutthroat Trout Populations

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (1/4) mile from the centerline of streams containing Montana Fish, Wildlife, and Parks designated conservation and core populations of Yellowstone cutthroat trout.

On the lands described below:

Purpose: The protection of Yellowstone cutthroat trout habitat necessary for the long term maintenance of Yellowstone cutthroat trout populations. To ensure healthy aquatic habitat exists in drainages important to the viability of Yellowstone cutthroat trout

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are acceptable or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Big Game Winter Range

Surface use for oil and gas development (including geophysical exploration) and geothermal operations is prohibited from December 1 through March 31 within CAPS SCORE 2 areas of big game winter range habitat and sage grouse winter range. Sage grouse winter ranges not identified due to lack of inventories, are delineated by a 2 mile buffer from lek sites.

On the lands described below:

This stipulation does not apply to operation and maintenance of production facilities.

Purpose: To protect White-Tailed Deer, Mule Deer, Elk, Antelope, Moose, Bighorn Sheep, and Sage Grouse winter range from disturbance during the winter use season, and to facilitate long-term maintenance of wildlife populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP, determines that the entire leasehold no longer contains winter/spring range for wildlife.

Exception: An exception to this stipulation may be granted by the authorized officer in consultation with Montana FWP, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Montana FWP, determines that portions of the area no longer contain wildlife winter/spring range. The dates for the timing restriction may be modified if new wildlife use information indicates that the December 1 through May 15 dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sage Grouse Leaks

Surface use for oil and gas development (including geophysical exploration) is prohibited from March 1 through June 15 within 2 miles of sage grouse leaks.

On the lands described below:

This stipulation does not apply to operation and maintenance of production facilities.

Purpose: The protection of sage-grouse leaks, breeding and nesting habitat, necessary for the long term maintenance of required sage-grouse populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP and the USFWS, determines that the entire leasehold can be occupied without adversely affecting sage grouse leaks or the surrounding breeding habitat.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with the state wildlife management agency, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer in consultation with the state wildlife management agency, determines that portions of the area can be occupied without adversely affecting sage grouse leaks.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sage Grouse Leaks (Restoration Areas and General Habitat Management Areas)

Surface use for oil and gas development (including geophysical exploration) is prohibited from March 1 through June 15 within 2 miles of sage grouse leaks.

On the lands described below:

This stipulation does not apply to operation and maintenance of production facilities.

Purpose: The protection of sage-grouse leaks, breeding and nesting habitat, necessary for the long term maintenance of required sage-grouse populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP and the USFWS, determines that the entire leasehold can be occupied without adversely affecting sage grouse leaks or the surrounding breeding habitat.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with the state wildlife management agency, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with the state wildlife management agency, determines that portions of the area can be occupied without adversely affecting sage grouse leaks.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sharp-tailed Grouse Leks

Surface use for oil and gas development (including geophysical exploration) is prohibited from March 1 through June 15 within ½ mile of sharp-tailed grouse leks.

On the lands described below:

This stipulation does not apply to operation and maintenance of production facilities.

Purpose: The protection of sharp-tailed grouse leks, breeding and nesting habitat, necessary for the long term maintenance of required sharp-tailed grouse populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP and the USFWS, determines that the entire leasehold can be occupied without adversely affecting sharp-tailed grouse leks or the surrounding breeding habitat.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sharp-tailed grouse leks.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Big Game Winter Range

Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc. and approved by the Authorized Officer in coordination with the state wildlife management agency. The operator shall not initiate surface-disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction the function and suitability of the habitat will not be impaired.

Surface occupancy and use activities will be restricted to one oil and gas surface disturbance per 640 acres of land. Cumulative disturbance from all activities cannot exceed more than 5 percent of the winter range habitat in 640 acres. To maintain functional habitat and the associated populations, disturbed areas would have to be fully reclaimed to pre-disturbance conditions or to a desired plant community before additional disturbance could be approved. The plan will address how short-term and long-term direct and indirect effects to winter range will be mitigated based on current science and research (Appendix H). The plan will also include a monitoring protocol.

On the lands described below:

Objective: To protect winter range utilized during mild to severe winters by big game identified by BLM priority species for management; including white-tailed deer, mule deer, elk, moose, pronghorn antelope, and bighorn sheep.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer big game winter range habitat.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the winter range habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer big game winter range habitat.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Cave and Karsts

Surface occupancy and use is subject to the following operating constraints:

Cave and karst areas will be inventoried prior to oil and gas exploration or development by the lessee. An approved mitigation plan will be required to avoid impacts to cave resources.

On the lands described below:

Purpose: To protect cave and karst resources.

There are no waivers, exceptions, or modifications.

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CONTROLLED SURFACE USE STIPULATION

Historic Trails

Surface occupancy and use is subject to the following operating constraints:

Oil and Gas leasing, exploration, and development would be allowed within ¼ mile of the following historic trails Bridger Cut-Off Trail (all three routes) and the Meeteetse Trail with the following stipulation:

Avoid, minimize, or mitigate adverse effects to historic landscapes surrounding these historic trails as a result of BLM land-use authorizations and to have no net decrease in the value of high-potential segments or sites regardless of NRHP eligibility.

On the lands described below:

Purpose: Preserve and protect historic trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

Serial No. _____

LEASE NOTICE

Lake Mason NWR

Surface occupancy and use is subject to the following operating constraints:

Cultural sites are located in the _____, Section ____ T. _____, R. _____. This parcel is located adjacent to the Lake Mason National Wildlife Refuge.

In accordance with 43 CFR 3101.1-2, additional mitigation may be required in regard to exploration and development.

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

CONTROLLED SURFACE USE STIPULATION

Special Recreation Management Areas

Surface occupancy and use is subject to the following operating constraints:

Operations within Special Recreation Management Areas (SRMAs) must be conducted in a manner that minimized encounters and conflicts with recreation users. Proposed activities may not alter or depreciate important recreational values located outside of developed areas, but within the SRMA boundary.

On the lands described below:

Purpose: To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity in the following SMRAs:

- Asparagus Point
- Pryor Mountain Travel Management Area (TMA)
- Horsethief TMA
- South Hills TMA

There are no waivers, exceptions, or modifications.

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CONTROLLED SURFACE USE STIPULATION

Special Status Plants

Surface occupancy or use is subject to the following operating constraints.

A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species and any known populations or suitable habitat will be provided after the issuance of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at the time of the year when the target species are actively growing and flowering. An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.

On the lands described below:

Purpose: To protect and conserve rare plants associated plant communities and the habitats that support them.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Elk Calving Grounds

Surface occupancy or use is subject to the following operating constraints:

Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc. and approved by the authorized officer in coordination with the state wildlife management agency. The operator shall not initiate surface disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction the function and suitability of the habitat will not be impaired.

On the lands described below:

Objective: To protect traditional elk calving ground habitat crucial for successful recruitment of elk calves.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer elk calving habitat.

Exceptions: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the elk calving habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within elk calving habitat.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Threatened and Endangered Species, Special Status Species and Their Habitat

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Invasive Species and Noxious Weeds

Surface occupancy and use is subject to the following operating constraints.

The following noxious weed(s) has been identified within the boundaries of the lease parcel:

On the lands described below:

If operator(s) chooses to disrupt/build roads/build facilities on the parcel, then the operator(s) will be responsible for providing an Integrated Weed Management (IPM) plan and the operator will be also responsible for the cost of treatment and monitoring throughout the duration of the project.

1. Site Inventories:

- a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
 - b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
 - c. Should include documentation on individual plant locations.
 - d. Individual(s) qualified in the identification of invasive species must conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
- a. Avoid creating soil conditions that promote weed germination and establishment.
 - b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
 - c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
 - d. Inspect material sources before moving infested material to site.

- e. Any and all equipment undercarriage must be power washed prior to entry to the aforementioned parcel and prior to leaving public highways/roads. When temperatures fall below freezing (32°F), high pressure air may be substituted for power washing.
- f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

Purpose: To prevent the spread and introduction of noxious weeds and ensure desired results of past treatment(s).

Waiver: The boundaries of the stipulated area to be inventoried for noxious weeds may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities does not contain noxious weed species. Such as during pre-drill/onsite inspection for noxious weed species determines that the area proposed for access and/or the construction of a drill pad has not noxious weeds present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Exception: The stipulation may be waived by the authorized officer if the noxious weed site inventory determines that the lease is found not to have noxious weed species present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Modification: The exception to this stipulation may be granted if BLM determines and if current weed site inventory indicates that the portion of the lease identified for surface disturbing activities does not contain noxious weed(s). If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Water, Riparian, Wetlands

Surface occupancy and use will be controlled within 300 feet of riparian and/or wetland areas. Surface-disturbing activities will require a plan with design features that demonstrate how all actions would maintain and/or improve the functionality of riparian/wetland areas.

The plan will address:

1. potential impacts to riparian and wetland resources;
2. mitigation to reduce impacts to acceptable levels (including timing restrictions);
3. post project restoration; and
4. monitoring (the operator must conduct monitoring capable detecting early signs of changing riparian and/or wetland conditions).

On the lands described below:

Purpose: To protect the unique biological and hydrological features associated with wetland and riparian areas. Disturbances adjacent to wetland and/or riparian areas (including road use) can adversely impact these sensitive areas. This stipulation would protect these features from indirect effects produced within the adjacent ground. This would also encompass the floodplain along most first to third order streams.

Waiver: This stipulation can be waived by the AO if it is determined that the entire lease area does not contain wetlands or riparian areas.

Exception: The Authorized Officer (AO) may grant an exception to this stipulation if the operator can demonstrate that the proposed action would not adversely impact wetland or riparian function or associated water quality.

Modification: The area affected by this stipulation can be modified by the AO if it is determined that portions of the lease area do not contain wetlands or riparian areas.

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CONTROLLED SURFACE USE

Visual Resource Management Class II, III, and IV Areas

Surface occupancy or use is subject to the following operating constraints.

All surface disturbing activities and construction of semi-permanent and permanent facilities in VRM Class II, III, and IV areas may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for each respective class.

On the lands described below:

For the purpose of: To control the visual impacts of activities and facilities within acceptable levels.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Travel Management

Surface occupancy or use is subject to the following operating constraints.

Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

On the lands described below:

For the purpose of:

- a. To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

CONTROLLED SURFACE USE STIPULATION

Bighorn Sheep Range

Surface occupancy and use is subject to the following operating constraints.

Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc., and approved by the authorized officer in coordination with the state wildlife management agency. The operator shall not initiate surface disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction that the function and suitability of the habitat will not be impaired.

On the lands described below:

Objective: To protect bighorn sheep and their habitats, a BLM priority species for management

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer bighorn sheep habitat

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the bighorn sheep habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within bighorn sheep habitat.

(XXXX RMP ROD, Page XX)

CONTROLLED SURFACE USE STIPULATION

Soils – Sensitive Soils

Surface occupancy and use will be controlled on sensitive soils. Sensitive soils are defined as those with severe wind and water erosion ratings. Prior to surface disturbance on sensitive soils, a reclamation plan must be approved by the administrative officer. The plan must demonstrate the following:

1. No other practicable alternatives exist for relocating the activity;
2. The activity will be located to reduce impacts to soil and water resources;
3. Site productivity will be maintained or restored;
4. Surface runoff and sedimentation will be adequately controlled;
5. On- and off-site areas will be protected from accelerated erosion by wind or water; and
6. Surface-disturbing activities will be prohibited during extended wet periods.

On the lands described below:

Purpose: To maintain the chemical, physical, and biotic properties of soils, this includes maintaining soil productivity, soil stability, and soil biotic properties. This will prevent excessive erosion, potential mass wasting, and improve the likelihood of successful reclamation.

Waiver: The administrative officer may waive this stipulation if it is determined that the entire leasehold does not contain sensitive soils.

Exception: The administrative officer may grant an exception to this stipulation if the operator can demonstrate that the proposed action will not contribute to degradation of the soil resource or downslope resource conditions.

Modification: The administrative officer may modify the area affected by this stipulation if it is determined that portions of the leasehold do not contain sensitive soils.

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Cultural Inventory Requirement

An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine whether cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine whether a cultural resource inventory is required. If an inventory is required, then:
2. The SMA will complete the required inventory; or the lessee or operator, at their option may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.
3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Land Use Authorizations

Land Use Authorizations incorporate specific surface land uses allowed on Bureau of Land Management (BLM) administered lands by authorized officers and those surface uses acquired by BLM on lands administered by other entities. These BLM authorizations include rights-of-way, leases, permits, conservation easements, and Recreation and Public Purposes leases and patents.

The rights acquired, reserved, or withdrawn by BLM for specific purposes include non-oil and gas leases, conservation easements, archaeological easement, road easements, fence easements, and administrative site withdrawals. The existence of such land use authorizations shall not preclude the leasing of the oil and gas. The locations of land use authorizations are noted on the oil and gas plats and in LR2000. The plats are a visual source noting location; LR2000 provides location by legal description through the Geographic Cross Reference program.

The specifically authorized acreage for land use should be avoided by oil and gas exploration and development activities. All authorized surface land uses are valid claims to prior existing rights unless the authorization states otherwise.

The right of the Secretary to issue future land use authorizations on an oil and gas lease is reserved by provision of section 29 of the Mineral Leasing Act, 30 U.S.C.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Paleontological Resource Inventory Requirement

This lease has been identified as being located within geologic units rated as being moderate to very high potential for containing significant paleontological resources. The locations meet the criteria for class 3, 4 and/or 5 as set forth in the Potential Fossil Yield Classification System. The BLM is responsible for ensuring that the leased lands are examined to determine whether paleontological resources are present and to specify mitigation measures.

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or project proponent must contact the BLM to determine whether a paleontological resource inventory is required. If an inventory is required, the lessee or project proponent must complete the inventory subject to the following:

- the project proponent must engage the services of a qualified paleontologist, acceptable to the BLM, to conduct the inventory.
- the project proponent will, at a minimum, inventory a 10-acre area or larger to incorporate possible project relocation which may result from environmental or other resource considerations.
- paleontological inventory may identify resources that may require mitigation to the satisfaction of the BLM.

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Sacred Sites and Historic Properties

Lease is located adjacent to known sacred sites and Historic Properties, and contains high potential for National Register eligible historic and cultural properties. Lessees are notified that archaeological resource inventory and mitigation costs may be high within this area. A cultural plan of operations will be developed in consultation with the Billings Field Office and must be approved before field development takes place. All surface use plans will be presented to the Billings Field Office archaeologist for review.

On the lands described below:

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Migratory Birds

Migratory Birds - Migratory Bird Treaty Act.

The Operator is responsible for compliance with provisions of the Act by implementing one of the following measures; a) avoidance by timing; ground disturbing activities will not occur from April 15 to July 15, b) habitat manipulation; render proposed project footprints unsuitable for nesting prior to the arrival of migratory birds (blading or pre-clearing of vegetation must occur prior to April 15 within the year and area scheduled for activities between April 15 and July 15 of that year to deter nesting, or c) survey-buffer-monitor; surveys will be conducted by a BLM approved biologist within the area of the proposed action and a 300 foot buffer from the proposed project footprint between April 15 to July 15 if activities are proposed within this timeframe. If nesting birds are found, activities would not be allowed within 0.1 miles of nests until after the birds have fledged. If active nests are not found, construction activities must occur within 7 days of the survey. If this does not occur, new surveys must be conducted. Survey reports will be submitted to the appropriate BLM Office.

On the lands described below:

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Black-footed Ferrets

Surface occupancy or use is subject to the following special operating constraints: prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size will be examined to determine the presence or absence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy. The lessee or operator may, at their own option, conduct an examination to determine the presence or absence of black-footed ferrets. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the

Surface management agency documenting the presence or absence of black footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat.

On the lands described below:

(XXXX RMP ROD, Page XX)

LEASE NOTICE
Invasive Species and Noxious Weeds

There may be noxious weeds present on the lease parcel. Prior to any surface disturbing activities, the operator will be responsible for providing an Integrated Weed Management (IWP) plan. The operator will be responsible for the cost of the treatment and monitoring throughout the duration of the lease as long as oil and gas activities are occurring on the lease.

1. Site Inventories:
 - a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
 - b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
 - c. Should include documentation on individual plant locations.
 - d. Individual(s) qualified in the identification of invasive species must conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project, to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
 - a. Avoid creating soil conditions that promote weed germination and establishment.
 - b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
 - c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
 - d. Inspect material sources before moving infested material to site.
 - e. Any and all equipment undercarriage must be power washed prior to entry and prior to leaving public highways/roads. When temperatures fall below freezing (32°F), high pressure air may be substituted for power washing.
 - f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

(XXXX RMP ROD, Page XX)

LEASE NOTICE

Setback from Human Occupied Dwellings Requirement

The Lease area may contain human occupied dwellings. Under Regulation 43 CFR 3101.1-2 and terms of the lease (BLM form 3100-11), the authorized officer may require reasonable measures to minimize adverse impacts to other resource values, land uses, and users not addressed in lease stipulations at the time operations are proposed. Such reasonable measures may include, but are not limited to modification of siting or design of facilities, which may require relocating proposed operations up to 200 meters, but not off the leasehold.

The setback requirement of 500 feet from human occupied dwellings has been established based upon the best information available. The following condition of approval may be applied as a result of the Application for Permit to Drill (APD) process during the on-site inspection and the environmental review unless an acceptable plan for mitigation of impacts is reached between the resident, lessee, and BLM:

- **Facilities will not be allowed within 500 feet of human occupied residences.**

The intent of this Lease Notice is to provide information to the lessee that would help design and locate oil and gas facilities to preserve the aesthetic qualities around human occupied dwellings.

NO SURFACE OCCUPANCY STIPULATION

ACECs

Surface occupancy and use is prohibited for oil and gas exploration and development in areas identified as areas of critical environmental concern:

On the lands described below:

- Grove Creek ACEC
- Meeteetse Spires (acquisition area only)
- Pryor Foothills RNA ACEC (¼ mile buffer on known plant sites only)
- Stark Site ACEC
- Weatherman Draw ACEC (7,291 acres – expansion area only)

Purpose: To protect cultural, paleontological and other resource values for which the ACECs were nominated.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Bighorn Sheep Lambing

Surface occupancy and use is prohibited within bighorn sheep lambing areas.

On the lands described below:

Objective: To protect traditional bighorn sheep lambing habitat, crucial for successful recruitment of bighorn sheep lambs.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer bighorn sheep lambing habitat.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within bighorn sheep lambing habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Blue Ribbon Fisheries

Surface occupancy and use is prohibited within one half (½) mile from the centerline of streams containing Class 1 fisheries (Blue Ribbon).

On the lands described below:

Objective: To ensure healthy aquatic habitat are maintained along Class 1 fisheries (Blue Ribbon).

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold can be occupied without adversely impacting the habitat associated with the Class 1 fisheries.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the fisheries habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold can be occupied without adversely impacting the habitat associated with the Class 1 fisheries.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION**Cemeteries**

Surface occupancy and use is prohibited for oil and gas exploration and development within and for a distance of 300 feet from the boundary of a cemetery.

On the lands described below:

There are no known cemeteries on BLM administered surface within the Billings Field Office boundaries. There are four known cemeteries located on private surface/federal mineral estate within the BiFO boundaries.

Cemetery	County	7.5 Map Name
Annherer Spring Grave	Carbon	Dead Indian Hill
Sunrise Cemetery	Carbon	Castagne
Castle Butte Cemetery	Yellowstone	Bull Mountain NW
Cabin Creek Cemetery	Musselshell	Weed Creek West

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Coal Leases

Surface occupancy and use is prohibited for oil and gas exploration and development within the boundaries of existing coal leases.

On the lands described below:

Purpose: To protect lease rights associated with existing coal leases.

Waiver: This stipulation may be waived by the authorized officer if it is determined that all coal lease operations within the leasehold have been completed, or if the coal lease is terminated, canceled or relinquished.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan of operations which is compatible with existing or planned coal mining operations and is approved by all affected parties.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that the portions of the area are not needed for existing or planned mining operations, or where mining operations have been completed. An agreement approved by all affected parties must be provided to the Authorized Officer.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Eagle Nest Sites

Surface occupancy and use is prohibited within ½ mile of active and alternate eagle nests (for territories occupied within the last five years) unless the activity complies with USFWS National Bald Eagle Management Guidelines (2007).

On the lands described below:

Purpose: To protect bald and golden eagle nesting sites and/or breeding habitat in accordance with the Montana Bald Eagle Management Plan and the Bald and Golden Eagle Protection Act.

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold no longer contains eagle nests or nesting territories.

Exception: An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect eagles or their habitat. This plan must be approved by BLM in consultation with the USFWS. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that a portion of the leasehold no longer contains eagle nests or nesting territories. Distance would be reduced if natural barriers (e.g., vegetation or terrain) reduce line-of-sight distance or nest visibility.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Raptor Nest Sites

Surface occupancy and use is prohibited within ¼ mile of raptor nest sites active within the preceding seven (7) years.

On the lands described below:

Objective: To protect nest sites of raptors identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of raptor nest sites active within the past 7 years or if the habitat has been altered to an extent that future use by nesting raptors is unlikely.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of raptor nest sites active within the past 7 years.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Colonial-nesting Waterbirds

Surface occupancy and use is prohibited within ¼ mile of waterbird nesting colonies.

On the lands described below:

Purpose: To protect the nesting and breeding habitat of colonial-nesting birds identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of nest sites historically used by colonial-nest birds or if the habitat has been altered to an extent that future use by colonial-nesting birds is unlikely.

Exception: The authorized officer may grant an exception if the action will not result in colony abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of colonial-nesting bird sites.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

LWCF Lands

Surface occupancy and use is prohibited for oil and gas exploration and development on lands acquired with Land and Water Conservation Funds.

On the lands described below:

Purpose: To protect surface values on lands acquired with Land and Water Conservation Funds. These lands are traditionally acquired for the purpose of protecting and managing for wildlife habitat or watershed values.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Mountain Plover Habitat

Surface occupancy and use is prohibited within mountain plover habitat.

On the lands described below:

Objective: To protect mountain plover habitat.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within mountain plover nesting habitat.

Exception: The authorized officer may grant an exception if the action will not impair the function or suitability of the mountain plover habitat.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within mountain plover habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

National Historic Trails

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of designated National Historic Trails.

On the lands described below:

- Designated National Historic Trails include the Lewis and Clark Trail and the Nez Perce (Nee-Ne-Poo) Trail.

Purpose: Preserve and protect designated National Historic Trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

National Register Eligible Sites

Surface occupancy and use is prohibited within, and for a distance of 300 feet from the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the national register of historic places. This includes cultural properties designated for conservation use, scientific use, traditional use, and public use. Defined archaeological sites, districts, and areas include: Steamboat Butte, Bruder-Janich Site, Paul Duke Site, Demi-John Flat NR District, Bighorn Mouth North Cliffs rock art site, Gyp Springs Site, Hoskins Basin Archaeological District.

On the lands described below:

Purpose: To protect those cultural properties identified for Conservation Use, Public Use, Traditional Use, or Scientific Use. (see definitions in WO IM 2002-101)

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Paleontological Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within designated or recorded paleontological sites.

On the lands described below:

Purpose: To preserve and protect significant vertebrate fossils and paleontological locales.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Peregrine Falcon Nests

Surface occupancy and use is prohibited within one mile of peregrine falcon nest sites active within the preceding 7 years.

On the lands described below:

Purpose: To protect nest sites and nesting activities of peregrine falcons, a BLM priority species for management.

Waiver: The authorized officer may waive this stipulation of the entire leasehold is no longer within one mile of peregrine falcon nest sites active within the past 7 years or if the habitat has been altered to an extent that future use by nesting peregrine falcons is unlikely.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within one mile of peregrine falcon nest sites active within the past 7 years..

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Prairie Dog Habitat

Surface occupancy and use is prohibited within ¼ mile of black-tailed or white-tailed prairie dog habitat. Prairie dog habitat is defined as the maximum extent of areas occupied by prairie dogs at any time during the last 10 years.

On the lands described below:

Purpose: To protect prairie dog habitat, a BLM priority species for management as well as, burrowing owls, mountain plover, and other obligate species.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of prairie dog colonies active within the past 10 years.

Exception: The authorized officer may grant an exception if the action will not impair the function or suitability of the prairie dog habitat.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of prairie dog habitat active within the past 10 years.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION
Unincorporated Towns and Residential Structures

Surface occupancy and use is prohibited for oil and gas exploration and development within and 500 feet from unincorporated towns or human occupied residential structures.

On the lands described below:

Purpose: To ensure a proper distance between development and human occupation for health and safety purposes; 500 feet provides for reduced visual intrusion, noise, traffic, and dust.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the public's health and safety.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the public's health and safety.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Riparian, Water, Wetlands, and Floodplains

Surface occupancy and use is prohibited within perennial or intermittent streams (as indicated by obligate wetland species or hydric soils), lakes, ponds, and reservoirs, 100-year floodplains, wetlands, and riparian areas.

On the lands described below:

Purpose: To protect the unique biological and hydrological features associated with perennial or intermittent streams; lakes, ponds, and reservoirs; floodplains; wetlands; and riparian areas.

Waiver: This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include these types of areas.

Exception: No exceptions would be allowed in streams, natural lakes, or wetlands. An exception may be granted by the authorized officer for riparian areas and floodplains if the operator can demonstrate that: (1) there are no practicable alternatives to locating facilities in these areas, (2) the proposed actions would maintain or enhance resource functions, and (3) all reclamation goals and objectives would be met.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include these types of areas.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Traditional Cultural Properties and Traditional Use Areas

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of the boundaries of cultural properties determined to be of particular importance to Native American groups, determined to be traditional cultural properties, and /or designated for traditional use. Such properties include (but are not limited to) burial locations, plant gathering locations, and areas considered sacred or used for religious purposes.

On the lands described below:

Purpose: To avoid disturbance and to protect archaeological properties of known significance to Native American groups, as well as traditional cultural properties, and the setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse (Priority Habitat Management Areas)

To protect Greater Sage-grouse, a priority species for management, surface occupancy and use is prohibited within Greater Sage-grouse Priority Habitat Management Areas (PHMAs).

On the lands described below:

Objective: To maintain and enhance the most important of habitats needed by priority sage-grouse populations.

Waivers and Modifications : No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted. The Authorized Officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:

- 1) Would not have direct, indirect, or cumulative effects on GRSG or its habitat; or,
- 2) Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide a clear conservation gain to GRSG.

Exceptions: Exceptions based on conservation gain (ii) may only be considered in (a) PHMAs of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP [revision or amendment]. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.

Any exceptions to this lease stipulation may be approved by the Authorized Officer only with the concurrence of the State Director. The Authorized Officer may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (1) or (2). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publically available at least quarterly.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse General Habitat Management Areas

To protect general habitat areas for Greater Sage-grouse breeding activities, surface occupancy and use is prohibited within 0.6 mile of the perimeter of Greater Sage-grouse leks.

On the lands described below:

Objective: To maintain the integrity of general sage-grouse habitat and promote movement and genetic diversity to support sustainable sage-grouse populations.

Waiver: The authorized officer may waive this stipulation if:

- The entire leasehold is no longer within 0.6 mile of the perimeter of a lek;
- It is determined sage-grouse are no longer a BLM special status species or federally threatened or endangered;
- No reasonable alternative development scenario exists; or
- The habitat has been altered to the point sage-grouse no longer use the site and there is little likelihood of habitat capable of supporting sage-grouse being restored.

Exceptions and Modifications: A modification or exception may only be considered where the proposed action is determined to be non-habitat, the area is not used by GRSG, and the proposed action would not have direct, indirect, or cumulative effects to GRSG or its habitat. The determination would be made by the BLM in consultation with a team of agency GRSG experts, including an expert from the state wildlife agency, USFWS, and BLM/USFS. The State Director must have received a determination before approving any modification or exception. All modifications or exceptions must be approved by the State Director.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse Restoration Areas

To protect restoration areas for Greater Sage-grouse breeding activities, surface occupancy and use is prohibited within 0.6 mile of the perimeter of Greater Sage-grouse leks.

On the lands described below:

Objective: To maintain the integrity of general sage-grouse habitat and promote movement and genetic diversity to support sustainable sage-grouse populations.

Waiver: The authorized officer may waive this stipulation if:

- The entire leasehold is no longer within 0.6 mile of the perimeter of a lek;
- It is determined sage-grouse are no longer a BLM special status species or federally threatened or endangered;
- No reasonable alternative development scenario exists; or
- The habitat has been altered to the point sage-grouse no longer use the site and there is little likelihood of habitat capable of supporting sage-grouse being restored.

Exception: The authorized officer may grant an exception if the action will not result in sage-grouse lek abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within 0.6 mile of the perimeter of an active lek or a portion of the habitat has been altered to the point sage-grouse no longer occupy the site and there is no likelihood of habitat capable of supporting sage-grouse being restored.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Sharp-tailed Grouse and Greater Prairie Chicken Leks

Surface occupancy and use is prohibited within ½ mile of sharp-tailed grouse and greater prairie chicken leks.

On the lands described below:

Objective: To protect leks for sharp-tailed grouse and greater prairie chicken, a BLM priority species for management.

Waiver: The authorized officer may waive this stipulation after coordination with the state wildlife management agency if the entire leasehold is no longer within ½ mile of the perimeter of active sharp-tailed grouse or greater prairie chicken leks active within the past 5 years or if the habitat has been altered to an extent that future use by sharp-tailed grouse or greater prairie chicken is unlikely.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not result in lek abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area after coordination with the state wildlife management agency if portions of the leasehold are no longer within ½ mile of the perimeter of active leks active within the past 5 years or if the habitat has been altered to an extent that future use by sharp-tailed grouse or greater prairie chicken is unlikely.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Special Recreation Management Areas

Surface occupancy and use is prohibited for oil and gas exploration and development on the following Special Recreation Management Areas:

On the lands described below:

- Sundance Lodge Recreation Area
- Four Dances Natural Area ACEC
- Shepherd Ah-Nei Recreation Area
- Acton Recreation Area
- Yellowstone River Corridor: ½ mile corridor

Purpose: To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity and to protect surface values in developed recreation areas and areas receiving high/concentrated use.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

State Lands

Surface occupancy and use is prohibited within the State of Montana Wildlife Management Areas, Game Ranges, Fishing Access Sites, and State Parks.

On the lands described below:

Purpose: To prevent user conflicts, incompatible uses in areas with high recreational values, provide the opportunity for quality recreation experiences, and to protect habitat suitability.

Waiver: This stipulation may be waived by the authorized officer, in consultation with the State of Montana, determines that the entire leasehold no longer contains a State of Montana management area or leasing is allowed.

Exception: An exception may be granted by the authorized officer, in consultation with the State of Montana, if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be mitigated.

Modification: The boundaries of the area may be modified by the authorized officer, in consultation with the State of Montana; if it is determined the management boundaries can be changed.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Wild and Scenic Rivers

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of Eligible and Suitable Wild and Scenic River segments.

On the lands described below:

Purpose: To protect the eligibility of Wild and Scenic River segments.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting WSR eligibility.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without affecting eligibility of WSR segments.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Yellowstone Cutthroat Trout Populations

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of streams containing Montana Fish, Wildlife, and Parks designated conservation and core populations of Yellowstone cutthroat trout.

On the lands described below:

Purpose: To protect Yellowstone cutthroat trout habitat necessary for the long term maintenance of Yellowstone cutthroat trout populations and ensure healthy aquatic habitat exists in drainages important to the viability of the species.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect Yellowstone cutthroat trout or their habitat. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Black-footed Ferret Habitat

Surface occupancy and use is prohibited within ¼ mile of black-footed ferret habitat. (NSO)

On the lands described below:

Purpose: To protect habitat for the federally endangered black-footed ferret.

Waiver: The authorized officer, subject to consultation with USFWS, may waive this stipulation, if the entire leasehold is no longer within ¼ mile of current to potential black-footed ferret habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not impair the function or suitability of the black-footed ferret habitat.

Modification: The authorized officer, subject to confirmation from the USFWS, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of current or potential black-footed ferret habitat.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Soils – Badlands, Rock Outcrops

Surface occupancy and use is prohibited on badlands and rock outcrops. (NSO)

On the lands described below:

Purpose: To prevent excessive soil erosion and to avoid disturbing areas subject to potential reclamation problems.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.

Exception: The authorized officer may not grant exceptions to this stipulation.

Modification: The authorized officer may modify the boundaries of the stipulated area if it is determined that portions of the leasehold do not include these types of areas.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

State-designated Source Water Protection Areas

Surface occupancy and use is prohibited within State-designated Source Water Protection Areas.
(NSO)

Purpose: To protect human health by minimizing the potential contamination of public water systems. Source water is untreated water from streams, rivers, lakes, or aquifers used to supply public water systems. Ensuring that source water is protected from contamination can reduce the costs of treatment and risks to public health. This stipulation would protect the State-designated Source Water Protection Areas that protect public water systems from potential contamination.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include Source Water Protection Areas.

Exception: – The authorized officer may not grant exceptions to this stipulation.

Modification: The authorized officer may modify the boundaries of the stipulated area if it is determined that portions of the leasehold do not include Source Water Protection Areas.

(XXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Interior Least Tern

Surface occupancy and use is prohibited within one-quarter ($\frac{1}{4}$) mile of wetlands identified as Interior Least Tern habitat.

On the lands described below:

Objective: To protect the nesting habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within $\frac{1}{4}$ mile of interior least tern nesting habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within $\frac{1}{4}$ mile of interior least tern habitat.

(XXXXX RMP ROD, Page XX)

NO SURFACE OCCUPANCY STIPULATION

Crucial Winter Range

Surface occupancy and use is prohibited in crucial winter range for antelope, elk, moose, bighorn sheep, mule deer, white-tailed deer, and Greater Sage-grouse.

On the lands described below:

Objective: To protect winter ranges crucial to the survival of 80% of the species identified as BLM priority species for management in the most severe of winters.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold has been altered to an extent that future use by wintering wildlife is unlikely.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not result impair the function or suitability of the winter range habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold no longer support wintering wildlife.

(XXXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Mountain Plover Habitat

Surface use is prohibited within ¼ mile of mountain plover habitat from April 1 through July 15.

On the lands described below:

Objective: To protect nesting activities associated with mountain plovers, a BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of mountain plover habitat.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity by substantially interfering with normal breeding, feeding, or sheltering behavior of mountain plovers.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of mountain plover habitat.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Raptor Nest Sites

Surface use is prohibited within ½ mile of active raptor nest sites from March 1 through July 31.

On the lands described below:

Objective: To protect nesting activities associated with raptors identified as BLM priority species for management

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ½ mile of an active raptor nest.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ½ mile of an active raptor nest.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Colonial-nesting Waterbirds

Surface use is prohibited within ½ mile of a waterbird colony from April 1 through July 15.

On the lands described below:

Purpose: To protect nesting activities associated with colonial-nesting birds identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ½ mile of an active colonial-nesting bird colony.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ½ mile of an active nesting colony.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sprague's Pipit Habitat

Surface use is prohibited from April 15 through July 15 in Sprague's Pipit Habitat.

This stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

Purpose: The protection of nesting and breeding habitat and the reproductive potential for Sprague's pipit.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer has Sprague's pipit habitat or nest sites are inactive.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect Sprague's pipit or their habitat. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within 1 mile of Sprague's pipit. Distance may be reduced if natural barriers (e.g. vegetation or terrain) reduce line-of-sight distance or nest visibility. The timing restriction dates may be modified if new information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sage Grouse Nest Areas (Restoration Areas and General Habitat Management Areas)

Surface use is prohibited from March 1 through June 30 within 3 miles of sage grouse leks.

This stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

Purpose: The protection of sage-grouse leks, breeding and nesting habitat, necessary for the long term maintenance of sage-grouse populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP and the USFWS, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks or the surrounding breeding habitat, the lek is confirmed inactive (10 years with no males or sign of lek activity), or sage grouse are no longer considered BLM special status species and not listed by USFWS.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Montana FWP, if the operator submits a plan which demonstrates that the proposed action will not affect sage grouse or their habitat. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H or portions of the area no longer have sage grouse or their habitat, or the lek is confirmed inactive (10 years with no males or sign of lek activity). Activities would be allowed, if they are consistent with the goals and objectives for the Restoration Area (RA) or General habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks or portions of the area no longer have sage grouse or their habitat. The timing restriction dates may be modified if new information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

TIMING LIMITATION STIPULATION

Sharp-tailed Grouse Nesting

Surface use is prohibited within 2 miles of the perimeter of sharp-tailed grouse and/or greater prairie chicken leks from April 1 through July 15.

On the lands described below:

Objective: To protect nesting activities associated with sharp-tailed grouse and greater prairie chickens, identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation after coordination with the state wildlife management agency if the entire leasehold is no longer within 2 miles of a lek active within the past 5 years.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not result in nest territory abandonment or decrease productivity by substantially interfering with normal breeding.

Modification: The authorized officer may modify the boundaries of the stipulated area after coordination with the state wildlife management agency if portions of the leasehold are no longer within 2 miles of a lek active within the past 5 years.

(XXXX RMP ROD, Page XX)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Serial Number _____

OFFER TO LEASE AND LEASE FOR OIL AND GAS

The undersigned (page 2) offers to lease all or any of the lands in Item 2 that are available for lease pursuant to the Mineral Lands Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351-359), or _____ (other).

READ INSTRUCTIONS BEFORE COMPLETING

1. Name _____

Street _____

City, State, Zip Code _____

2. This application/offer/lease is for: (Check Only One) ☐ PUBLIC DOMAIN LANDS ☐ ACQUIRED LANDS (percent U.S. interest _____)

Surface managing agency if other than Bureau of Land Management (BLM): _____ Unit/Project _____

Legal description of land requested: *Parcel No.: _____ *Sale Date (m/m/dd/yyyy): _____

*See Item 2 in Instructions below prior to completing Parcel Number and Sale Date.

T. _____

R. _____

Meridian _____

State _____

County _____

Amount remitted: Filing fee \$ _____ Rental fee \$ _____ Total acres applied for _____
Total \$ _____

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. _____

R. _____

Meridian _____

State _____

County _____

Total acres in lease _____

Rental retained \$ _____

This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease.

NOTE: This lease is issued in the high bidder pursuant to his/her duly executed bid or nomination form submitted under 43 CFR 3120 and is subject to the provisions of that bid or nomination and those specified on this form.

Type and primary term:

☐ Noncompetitive lease (ten years)

by _____
(B/LM)

☐ Competitive lease (ten years)

(Title) (Date)

☐ Other _____ EFFECTIVE DATE OF LEASE _____

(Continued on page 2)

4. (a) Undersigned certifies that (1) offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or Territory thereof; (2) all parties holding an interest in the offer are in compliance with 43 CFR 3100 and the leasing authorities; (3) offeror's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options); (4) offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located; (5) offeror is in compliance with qualifications concerning Federal coal lease holdings provided in sec. 2(a)(2)(A) of the Mineral Leasing Act; (6) offeror is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (7) offeror is not in violation of sec. 41 of the Act. (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms conditions, and stipulations of which offeror has been given notice, and any amendment or separate lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments.

Duly executed this _____ day of _____, 20_____
(Signature of Lessee or Attorney-in-fact)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or Agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

LEASE TERMS

Sec. 1. Rentals—Rentals must be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

- (a) Noncompetitive lease, \$1.50 for the first 5 years; thereafter \$2.00;
- (b) Competitive lease, \$1.50; for the first 5 years; thereafter \$2.00;
- (c) Other, see attachment, or as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties must be paid on the production allocated to this lease. However, annual rentals must continue to be due at the rate specified in (a), (b), or (c) rentals for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) must automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties—Royalties must be paid to proper office of lessor. Royalties must be computed in accordance with regulations on production removed or sold. Royalty rates are:

- (a) Noncompetitive lease, 12 1/2%;
- (b) Competitive lease, 12 1/2 %;
- (c) Other, see attachment, or as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties must be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production must be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee must not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor must lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year must be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge will be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee must be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

(Continued on page 3)

(Form 3100-11, page 2)

Sec. 3. Bonds - A bond must be filed and maintained for lease operations as required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage - Lessee must exercise reasonable diligence in developing and producing, and must prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of area, field, or pool embracing these leased lands. Lessee must drill and produce wells necessary to protect leased lands from drainage and pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection - Lessee must file with proper office of lessor, not later than 30 days after effective date thereof, any contract or evidence of other arrangement for sale or disposal of production. At such times and in such form as lessor may prescribe, lessee must furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavailability lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessor, lessee must keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessor when required. Lessee must keep open at all reasonable times for inspection by any representative of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee must maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports costs claimed as manufacturing, preparation, and/or transportation costs. All such records must be maintained in lessee's accounting offices for future audit by lessor. Lessee must maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released after the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section will be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations - Lessee must conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee must take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses must be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee must contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee must immediately contact lessor. Lessee must cease any operations that would result in the destruction of such species or objects.

Sec. 7. Mining operations - To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.

Sec. 8. Extraction of helium - Lessor reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessor at no expense or loss to lessee or owner of the gas. Lessee must include in any contract of sale of gas the provisions of this section.

Sec. 9. Damages to property - Lessee must pay lessor for damage to lessor's improvements, and must save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 10. Protection of diverse interests and equal opportunity - Lessee must pay, when due, all taxes legally assessed and levied under laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee must comply with section 28 of the Mineral Leasing Act of 1920.

Lessee must comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessor nor lessee's subcontractors must maintain segregated facilities.

Sec. 11. Transfer of lease interests and relinquishment of lease - As required by regulations, lessee must file with lessor any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which will be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 12. Delivery of premises - At such time as all or portions of this lease are returned to lessor, lessee must place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of productive wells.

Sec. 13. Proceedings in case of default - If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease will be subject to cancellation unless or until the leasehold contains a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or communitization agreement which contains a well capable of production of unitized substances in paying quantities. This provision will not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver will not prevent later cancellation for the same default occurring at any other time. Lessee will be subject to applicable provisions and penalties of FOGFMA (30 U.S.C. 1701).

Sec. 14. Heirs and successors-in-interest - Each obligation of this lease will extend to and be binding upon, and every benefit hereof will inure to the heirs, executors, administrators, successors, beneficiaries, or assignees of the respective parties hereto.

(Continued on page 4)

(Form 3100-11, page 3)

A. General:

1. Page 1 of this form is to be completed only by parties filing for a noncompetitive lease. The BLM will complete page 1 of the form for all other types of leases.
2. Entries must be typed or printed plainly in ink. Offeror must sign Item 4 in ink.
3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 1821.2-1 for office locations.
4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

B. Special:

Item 1 - Enter offeror's name and billing address.

Item 2 - Identify the mineral status and, if acquired lands, percentage of Federal ownership of applied for minerals. Indicate the agency controlling the surface of the land and the name of the unit or project which the land is a part. The same offer may not include both Public

Domain and Acquired lands. Offeror also may provide other information that will assist in establishing title for minerals. The description of land must conform to 43 CFR 3110. A single parcel number and Sale Date will be the only acceptable description during the period from the first day following the end of a competitive process until the end of that same month, using the parcel number on the List of Lands Available for Competitive Nominations or the Notice of Competitive Lease Sale, whichever is appropriate.

Payments: The amount remitted must include the filing fee and the first year's rental at the rate of \$1.50 per acre or fraction thereof. The full rental based on the total acreage applied for must accompany an offer even if the mineral interest of the United States is less than 100 percent. The filing fee will be retained as a service charge even if the offer is completely rejected or withdrawn. To protect priority, it is important that the rental submitted be sufficient to cover all the land requested. If the land requested includes lots or irregular quarter-quarter sections, the exact area of which is not known to the offeror, rental should be submitted on the basis of each such lot or quarter-quarter section containing 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease issues, the rental remitted for the parts withdrawn or rejected will be returned.

Item 3 - This space will be completed by the United States.

NOTICES

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provide that you be furnished with the following information in connection with information required by this oil and gas lease offer.

AUTHORITY: 30 U.S.C. 181 et seq.; 30 U.S.C. 351-359.

PRINCIPAL PURPOSE: The information is to be used to process oil and gas offers and leases.

ROUTINE USES: (1) The adjudication of the lessee's rights to the land or resources. (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when consent or concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If all the information is not provided, the offer may be rejected. See regulations at 43 CFR 3100.

The Paperwork Reduction Act of 1995 requires us to inform you that:

This information is being collected pursuant to the law.

This information will be used to create and maintain a record of oil and gas lease activity.

Response to this request is required to obtain a benefit.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 1 hour per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0185), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop, 4011S, Washington, D.C. 20240.

LEASE STIPULATIONS
BUREAU OF RECLAMATION

The lessee agrees to maintain, if required by the lessor during the period of this lease, including any extension thereof, an additional bond with qualified sureties in such sum as the lessor, if it considers that the bond required under Section 2(a) is insufficient, may at any time require:

(a) to pay for damages sustained by any reclamation homestead entryman to his crops or improvements caused by drilling or other operations of the lessee, such damages to include the reimbursement of the entryman by the lessee, when he uses or occupies the land of any homestead entryman, for all construction and operation and maintenance charges becoming due during such use or occupation upon any portion of the land so used and occupied;

(b) to pay any damage caused to any reclamation project or water supply thereof by the lessee's failure to comply fully with the requirements of this lease; and

(c) to recompense any nonnominal applicant, entryman, purchaser under the Act of May 16, 1930 (46 Stat. 367), or patentee for all damages to crops or to tangible improvements caused by drilling or other prospecting operation, where any of the lands covered by this lease are embraced in any nonnominal application, entry, or patent under rights initiated prior to the date of this lease, with a reservation of the oil deposits, to the United States pursuant to the Act of July 17, 1914 (38 Stat. 509).

As to any lands covered by this lease within the area of any Government reclamation project, or in proximity thereto, the lessee shall take such precautions as required by the irrigation under such project or to the water supply thereof; provided that drilling is prohibited on any constructed works or right-of-way of the Bureau of Reclamation, and provided, further, that there is reserved to the lessor, its successors and assigns, the superior and prior right at all times to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, and reclamation works, in which construction, operation, and maintenance, the lessor, its successors and assigns, shall have the right to use any or all of the lands herein described without making compensation therefor, and shall not be responsible for any damage from the presence of water thereon or on account of ordinary, extraordinary, unexpected, or unprecedented floods. That nothing shall be done under this lease to increase the cost of, or interfere in any manner with, the construction, operation, and maintenance of such works. It is agreed by the lessee that, if the construction of any or all of said dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone or telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures or reclamation works across, over, or upon said lands should be made more expensive by reason of the existence of the improvements and workings of the lessee thereon, said additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and

binding upon the parties hereto, and that within thirty (30) days

after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States, or its successors, constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, or reclamation works, across, over, or upon said lands; provided, however, that subject to advance written approval by the United States, the location and course of any improvements or works and appurtenances may be changed by the lessee; provided, further, that the reservations, agreements, and conditions contained in the within lease shall be and remain applicable notwithstanding any change in the location or course of said improvements or works of lessee. The lessee further agrees that the United States, its officers, agents, and employees, and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works hereinabove enumerated. Nothing in this paragraph shall be construed as in any manner limiting other reservations in favor of the United States contained in this lease.

THE LESSEE FURTHER AGREES That there is reserved to the lessor, its successors and assigns, the prior right to use any of the lands herein leased, to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures, and also the right to remove construction materials therefrom, without any payment made by the lessor or its successors for such right, with the agreement on the part of the lessee that if the construction of any or all of such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or the removal of construction materials therefrom, should be made more expensive by reason of the existence of improvements or workings of the lessee thereon, such additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and binding upon the parties hereto, and that within thirty (30) days after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States or its successors constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or removing construction materials therefrom. The lessee further agrees that the lessor, its officers, agents, and employees and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works herein above enumerated. Nothing contained in this paragraph shall be construed as in any manner limiting other reservations in favor of the lessor contained in this lease.

(continued on reverse)

To insure against the contamination of the waters of the _____ Reservoir,
_____, the lessee agrees that
the following further conditions shall apply to all drilling and operations on lands covered by this lease,
which lie within the flowage or drainage area of the _____ Reservoir, as such area
is defined by the Bureau of Reclamation:

1. The drilling sites for any and all wells shall be approved by the Superintendent,
Bureau of Reclamation, _____ Project, _____ before
drilling begins. Sites for the construction of pipe-line rights-of-way or other authorized facilities shall also
be approved by the Superintendent before construction begins.

2. All drilling or operation methods or equipment shall, before their employment,
be inspected and approved by the Superintendent of the _____ Project,
_____, and by the supervisor of the U.S. Geological Survey having jurisdiction over the area.

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(02/03)

Serial Number _____

SPECIAL STIPULATION - BUREAU OF RECLAMATION

To avoid interference with recreation development and/or impacts to fish and wildlife habitat and to assist in preventing damage to any Bureau of Reclamation dams, reservoirs, canals, ditches, laterals, tunnels, and related facilities, and contamination of the water supply therein, the lessee agrees that the following conditions shall apply to all exploration and developmental activities and other operation of the works thereafter on lands covered by this lease:

1. Prior to commencement of any surface-disturbing work including drilling, access road work, and well location construction, a surface use and operations plan will be filed with the appropriate officials. A copy of this plan will be furnished to the Regional Director, Great Plains Region, Bureau of Reclamation, P.O. Box 36900, Billings, MT 59107-6900, for review and consent prior to approval of the plan. Such approval will be conditioned on reasonable requirements needed to prevent soil erosion, water pollution, and unnecessary damages to the surface vegetation and other resources, including cultural resources, of the United States, its lessees, permittees, or licensees, and to provide for the restoration of the land surface and vegetation. The plan shall contain provisions as the Bureau of Reclamation may deem necessary to maintain proper management of the water, recreation, lands structures, and resources, including cultural resources, within the prospecting, drilling, or construction area.

Drilling sites for all wells and associated investigations such as seismograph work shall be included in the above-mentioned surface use and operation plan.

If later explorations require departure from or additions to the approved plan, these revisions or amendments, together with a justification statement for proposed revisions, will be submitted for approval to the Regional Director, Great Plains Region, Bureau of Reclamation, or his authorized representative.

Any operations conducted in advance of approval of an original, revised, or amended prospecting plan, or which are not in accordance with an approved plan constitute a violation of the terms of this lease. The Bureau of Reclamation reserves the right to close down operations until such corrective action, as is deemed necessary, is taken by the lessee.

2. No occupancy of the surface of the following excluded areas is authorized by this lease. It is understood and agreed that the use of these areas for Bureau of Reclamation purposes is superior to any other use. The following restrictions apply only to mineral tracts located within the boundary of a Bureau of Reclamation project where the United States owns 100 percent of the fee mineral interest.

- a. Within 500 feet on either side of the centerline of any and all roads or highways within the leased area.
- b. Within 200 feet on either side of the centerline of any and all trails within the leased area.
- c. Within 500 feet of the normal high-water line of any and all live streams in the leased area.
- d. Within 400 feet of any and all recreation developments within the leased area.
- e. Within 400 feet of any improvements either owned, permitted, leased, or otherwise authorized by the Bureau of Reclamation within the leased area.
- f. Within 200 feet of established crop fields, food plots, and tree/shrub plantings within the leased area.
- g. Within 200 feet of slopes steeper than a 2:1 gradient within the leased area.
- h. Within established rights-of-way of canals, laterals, and drainage ditches within the leased area.
- i. Within a minimum of 500 feet horizontal from the centerline of the facility or 50 feet from the outside toe of the canal, lateral, or drain embankment, whichever distance is greater, for irrigation facilities without clearly marked rights-of-way within the leased area.

j. Providing that appropriate environmental compliance measures can be ensured, and providing further that Reclamation project works and other public interests can be protected, Reclamation may consider, on a case-by-case basis, waiving the requirement specified in Section 2 hereof. HOWEVER, LESSEES ARE ADVISED THAT OBTAINING SUCH A WAIVER CAN BE A DIFFICULT, TIME CONSUMING, AND COSTLY PROCESS WITH NO GUARANTEE THAT RECLAMATION WILL GRANT THE REQUESTED WAIVER.

3. No occupancy of the surface or surface drilling will be allowed in the following areas. In addition, no directional drilling will be allowed that would intersect the subsurface zones delineated by a vertical plane in these areas. The following restrictions apply only to mineral tracts located within the boundary of a Bureau of Reclamation project, where the United States owns 100 percent of the fee mineral interest in said tract, or tracts.

a. Within 1,000 feet of the maximum water surface, as defined in the Standard Operating Procedures (SOP), of any reservoir and related facilities located within the leased area.

b. Within 2,000 feet of dam embankments and appurtenance structures such as spillway structures, outlet works, etc.

c. Within one-half (1/2) mile horizontal from the centerline of any tunnel within the leased area.

d. Providing that appropriate environmental compliance measures can be ensured, and providing further that Reclamation project works and other public interests can be protected. Reclamation may consider, on a case-by-case basis, waiving the requirements specified in Section 3 hereof. **HOWEVER, LESSEES ARE ADVISED THAT OBTAINING SUCH A WAIVER CAN BE A DIFFICULT, TIME CONSUMING, AND COSTLY PROCESS WITH NO GUARANTEE THAT RECLAMATION WILL GRANT THE REQUESTED WAIVER.**

4. The distances stated in items 2 and 3 above are intended to be general indicators only. The Bureau of Reclamation reserves the right to revise these distances as needed to protect Bureau of Reclamation facilities.

5. The use of explosives in any manner shall be so controlled that the works and facilities of the United States, its successors and assigns, will in no way be endangered or damaged. In this connection, an explosives use plan shall be submitted to and approved by the Regional Director, Great Plains Region, Bureau of Reclamation, or his/her authorized representative.

6. The lessee shall be liable for all damage to the property of the United States, its successors or assigns, resulting from the exploration, development, or operation of the works contemplated by this lease, and shall further hold the United States, its successors or assigns, and its officers, agents, and employees, harmless from all claims of third parties for injury or damage sustained or in any way resulting from the exercise of the rights and privileges conferred by the lease.

7. The lessee shall be liable for all damages to crops or improvements of any entryman, nonmineral applicant, or patentee, their successors or assigns, caused by or resulting from the drilling or other operations of the lessee, including reimbursement of any entryman or patentee, their successors or assigns, for all construction, operation, and maintenance charges becoming due on any portion of their said lands damaged as a result of the drilling or other operation of the lessee.

8. In addition to any other bond required under the provisions of this lease, the lessee shall provide such bond as the United States may at any time require for damages which may arise under the liability provisions of Section six (6) and seven (7) above.

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Appendix D: Fluid Minerals

Procedures in Oil and Gas Recovery and Operations and Summary of the Billings Reasonably Foreseeable Development Scenario

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D. Fluid Minerals: Procedures in Oil and Gas Recovery and Operations and Summary of the Billings Reasonably Foreseeable Development Scenario

D.1 Geophysical Operations

Oil and gas reservoirs are discovered by either direct or indirect exploration methods. Direct methods include mapping of surface geology, observing oil or gas seeps, and gathering information on hydrocarbon shows observed in drilling wells. Indirect methods include various types of geophysical exploration such as seismic, gravity, and magnetic surveys, which use remote data gathering techniques to delineate subsurface structures or lithologic changes that are not directly observable, but that may contain or trap oil and gas. Data is often acquired using equipment mounted on surface vehicles or aircraft. Information from geophysical exploration can lead oil companies or others to request that lands be offered for lease, or assist in the selection of drill sites on existing leases. However, a federal oil and gas lease is not required in order to conduct geophysical operations. Existing road systems are used where available. Roads may be cleared of vegetation and loose rocks to improve access for trucks if the permit allows that action.

Blading and road construction for seismic operations are not usually allowed so that environmental impacts are minimized. In areas with rugged terrain or without access roads, and during certain seasons of the year, seismic work is conducted by helicopter rather than by ground vehicles. Other geophysical operations that do not cause additional surface disturbance include remote sensing, and gravity, and aeromagnetic surveying.

D.1.1 Geophysical Permitting Procedures and Regulations

Geophysical operations on and off an oil and gas lease are reviewed by the Federal Surface Management Agency (SMA), which can include the BLM, Bureau of Reclamation, or U.S. Forest Service (USFS). Close cooperation between the operator and the managing agency during geophysical operations minimizes surface impacts and protects other resources.

D.1.1.1 Notification Process

Geophysical operations on public lands are reviewed by the BLM. Geophysical exploration on public lands requires review and approval following the procedures in 43 CFR Subparts 3150, 3151, and 3154. In the Billings Field Office, the Field Manager is authorized to approve geophysical operations. The responsibilities of the geophysical operator and the Field Manager during geophysical operations are described below.

D.1.1.2 Geophysical Operator

The operator is required to file a Notice of Intent to Conduct Oil and Gas Exploration Operations (form 3150-4) for operations on public lands administered by the BLM. Maps (preferably 1:24,000 scale topographic maps) showing the location of the proposed lines, access routes and

ancillary facilities must accompany the Notice of Intent. When the Notice of Intent is filed, the authorized officer may request a prework conference or field inspection. Special requirements or procedures that are identified by the authorized officer are included in the Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration (form 3150-4 and a copy of the state requirements). Any changes in the original Notice of Intent must be submitted in writing to the authorized officer. Written approval must be secured before activities proceed.

Bonding of the operator is required. A copy of proof of satisfactory bonding shall accompany the Notice of Intent. Proper bonding may include a \$5,000 individual, \$25,000 statewide, or \$50,000 nationwide geophysical exploration bond. In lieu of an exploration bond, a statewide or nationwide oil and gas bond may be used if it contains a rider for geophysical exploration. The operator is required to comply with applicable federal, state, and local laws such as Federal Land Policy and Management Act of 1976, the National Historic Preservation Act of 1966, and the Endangered Species Act of 1973, as amended. Earth-moving equipment shall not be used without prior approval. Operators may be required to submit an archeological evaluation and the agency provide NEPA documentation for cultural and wildlife resources if dirt work or other surface disturbance is contemplated, or if there is reason to believe that these resources may be adversely affected. When geophysical operations have been completed including any required reclamation or rehabilitation, the operator is required to file a Notice of Completion (form 3150-5) including certification that all terms and conditions of the approved Notice of Intent have been fulfilled. The operator must also submit a map that shows the actual line location, access route, and other survey details.

D.1.1.3 BLM Field Manager (authorized officer)

The authorized officer is required to contact the operator within five working days after receiving the Notice of Intent to explain the terms of the notice, including the "Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration," current laws, and BLM administrative requirements. At the time of the prework conference or field inspection, written instructions or orders are given to the operator. The authorized officer is responsible for the examination of resource values to determine appropriate surface protection and reclamation measures. Compliance inspections during the operation ensure that stipulations are followed. The authorized officer is required to make a final inspection following filing of the Notice of Completion. Compliance inspections upon completion of work ensure that required reclamation is properly completed. When reclamation is approved, obligation against the operator's bond is released. The BLM has 30 days after receipt of the Notice of Completion to notify the operator whether the reclamation is satisfactory or if additional reclamation work is needed. Bonding liability will automatically terminate within 90 days after receipt of the Notice of Completion unless the authorized officer notifies the operator of the need for additional reclamation work.

D.1.1.4 State Standards

Geophysical operators register with the state through the County Clerk and Recorder's office. State regulations include requirements for permitting geophysical activities such as shothole locations, drilling techniques, plugging techniques, bonding, and reclamation.

D.1.1.5 Mitigation

When a geophysical Notice of Intent is received, restrictions may be placed on the application to protect resource values or to mitigate impacts. Many of these requirements may be the same as the oil and gas lease stipulations adopted in the RMP. Other less restrictive measures may be used when impacts to resource values will be less severe. This is due in part to the temporary nature of geophysical exploration. Seasonal restrictions may be imposed to reduce conflicts with wildlife, watershed damage, and hunting activity. The decisions concerning the level of protection required are made on a case-by-case basis when a Notice of Intent is received.

D.2 Leasing Process

Federal oil and gas leasing authority is found in the 1920 Mineral Leasing Act, as amended, for public lands and the 1947 Acquired Lands Leasing Act, as amended, for acquired lands. Leasing of federal oil and gas is affected by other acts such as National Environmental Policy Act of 1969, the Wilderness Act of 1964, National Historic Preservation Act of 1966, the Endangered Species Act of 1973, Federal Land Policy and Management Act of 1976, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. Regulations governing federal oil and gas leasing are contained in 43 CFR Part 3100 with additional requirements and clarification found in Onshore Operating Orders and Washington office manuals, handbooks and instruction memorandums.

The 1920 Mineral Leasing Act provides that all public lands are open to oil and gas leasing unless a specific order has been issued to close an area. Leasing procedures for oil, conventional gas, and coal bed natural gas are the same.

The lease grants the right to explore, extract, remove, and dispose of oil and gas deposits that may be found in the leased lands. The lessee may exercise the rights conveyed by the lease subject to the lease terms and attached stipulations, if any.

Lease rights may be subject to lease stipulations and permit approval requirements. Stipulations and permit requirements describe how standard lease rights are modified. Lease constraints or requirements may also be applied to applications for permit to drill on existing leases provided the constraints or requirements are within the authority reserved by the terms and conditions of the lease. The stipulations and conditions of approval must be in accordance with laws, regulations, and lease terms. The lease stipulations and permit conditions of approval allow for management of federal oil and gas resources in concert with other resources and land uses. The BLM planning process is the mechanism used to evaluate and determine where and how federal oil and gas resources will be made available for leasing. In areas where oil and gas development may conflict with other resources, the areas may be closed to leasing. Areas where oil and gas development could coexist with other land uses or resources will be open to leasing. Leases in these areas will be issued with standard lease terms or with added stipulations based upon decisions in the land use document. Added stipulations are a part of the lease only when environmental and planning records demonstrate the necessity for the stipulations (modifications of the lease).

Currently, leases are issued as either competitive leases or noncompetitive leases with 10-year terms. Competitive leases will be sold to the highest qualified bidder at oral auctions that are held at least quarterly. Tracts that receive no bid at the sale are available for the filing of noncompetitive offers for two years following the sale. All offers filed the day after the sale (referred to as day-after-the-sale filings) are considered simultaneously filed. This means that if there is more than one offer filed for a specific parcel the day after the sale, a drawing must be held to determine the priority on multiple offers. Noncompetitive offers filed after that time are on a first-come first-served basis. If there are no offers filed for a parcel for the two-year period after the sale, the lands must be nominated again for competitive leasing. Rental payments for these leases will be \$1.50 per acre for the first 5 years and \$2.00 per acre. If the lessee establishes hydrocarbon production, the leases can be held for as long as oil or gas is produced in paying quantities. The royalty rate for leases issued following the 1987 Oil and Gas Leasing Reform Act is 12½ percent, of which one-half of the royalty collected is disbursed to the State of Montana for collections from public domain lands (acquired lands have various disbursements). Minimum royalty is the same amount as the rental. Future interest leases are available for entire or fractional mineral estates that have not reverted to federal ownership. These are minerals that are reserved by the grantor for a specific period of time in warranty deeds to the United States. Any future interest leases may be obtained only through the competitive bidding process and are made effective the date of vesting of the minerals with the United States.

D.2.1 Resource Management Plan Maintenance

New information may lead to changes in existing resource inventories. New use areas and resource locations may be identified or use areas and resource locations that are no longer valid may be identified. These resources usually cover small areas requiring the same protection or mitigation as identified in this plan. Identification of new areas or removal of old areas that no longer have those resource values will result in the use of the same lease stipulation identified in this plan. These areas will be added to the existing data inventory without a plan amendment. In cases where the changes constitute a change in resource allocation outside the scope of this plan, a plan amendment would be required.

D.2.2 Lease Stipulations

Certain resources in the planning area require protection from impacts associated with oil and gas activities. The specific resource and the method of protection are contained in lease stipulations. Lease stipulations are usually no surface occupancy, controlled surface use, or timing limitation. A notice may also be included with a lease to provide guidance regarding resources or land uses. While the actual wording of the stipulations may be adjusted at the time of leasing, the protection standards described will be maintained.

D.2.3 Controlled Surface Use

Use or occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational constraints that may modify the lease rights. Controlled surface use is used for operating guidance, not as a substitute for the no surface occupancy or timing stipulations.

D.2.4 No Surface Occupancy (NSO)

Use or occupancy of the land surface for fluid mineral exploration or development is prohibited in order to protect identified resource values. The no surface occupancy stipulation includes stipulations which may have been worded as “No Surface Use and Occupancy,” “No Surface Disturbance,” “Conditional No Surface Occupancy,” and “Surface Disturbance or Occupancy Restriction (by location).”

D.2.5 Timing Limitation (Seasonal Restriction)

Prohibits surface use during specified times to protect identified resource values. This stipulation does not apply to the operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent, project-specific mitigation measures would be insufficient.

D.2.6 Waivers, Exceptions, Modifications

Lessees must honor lease stipulations when an Application for Permit to Drill or other surface disturbing operations are proposed to explore and develop a lease, unless the BLM grants a waiver, exception, or modification to a lease stipulation. This RMP establishes the guidelines by which future waivers, exceptions, or modifications are granted within the Billings Field Office. Substantial modification or waiver subsequent to lease issuance is subject to public review for at least a 30-day period.

Exception: A case-by case exemption from a lease stipulation. The stipulation continues to apply to all other sites within the leasehold to which the restrictive criteria apply.

Modification: Fundamental changes to the provisions of a lease stipulation, either temporarily or for the term of the lease. Therefore, a modification may include an exemption from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which the restrictive criteria apply.

Waiver: Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

D.3 Permitting

A federal lessee or operator is governed by procedures set forth in the Code of Federal Regulations at 43 CFR Part 3160, Onshore Oil and Gas Order No. 1, “Approval of Operations on Onshore Federal and Indian Oil and Gas Leases,” issued under 43 Code of Federal Regulations (CFR) 3164 and other orders and notices.

The lessee may conduct lease operations after lease issuance. However, proposed drilling and associated activities must be approved in advance before beginning operations. Therefore, before beginning construction or the drilling of a well, the lessee or operator must file an Application for Permit to Drill (APD) with the BLM Miles City DO. A copy of the application will be posted in the DO and Billings Field Office (FO), and if applicable, in the office of the Surface

Management Agency (SMA) for a minimum of 30 days for review by the public. After 30 days, the application can be approved in accordance with (a) lease stipulations, (b) Onshore Oil and Gas Orders, and (c) Onshore Oil and Gas regulations (43 CFR Part 3160) if it is administratively and technically complete.

Evidence of bond coverage for lease operations must be submitted with the application. Bond amount must not be less than a \$10,000.00 lease bond, a \$25,000.00 statewide bond or a \$150,000.00 nationwide bond.

Pre-drill on-site inspections will be conducted for all wells. The inspection makes possible selection of the most feasible well site and access road from environmental, geological, and engineering points of view. The purpose of the field inspection is to evaluate the operator's plan, assess the situation for possible impacts, and to formulate resource protection stipulations. Surface use and reclamation requirements are developed during the on-site inspection that is usually conducted within 15 days after receipt of the Notice of Staking (NOS) or APD. For operations proposed on privately-owned surface, if the operator after a good-faith effort is unable to reach an agreement with the private surface owner, the operator must post a bond to cover loss of crops and damages to tangible improvements prior to approval of the APD.

Normally, site-specific mitigations in the form of conditions of approval are added to the APD for protection of surface and subsurface (including groundwater) resource values in the vicinity of the proposed activity. The BLM is responsible for preparing environmental documentation necessary to satisfy the National Environmental Policy Act (NEPA) requirements and provide any mitigation measures needed to protect the affected resource values.

Conditions of approval implement the lease stipulations and are part of the permit when environmental and field reviews demonstrate the necessity for operating constraints or requirements. A surface restoration plan is part of an approved permit, either an APD or Sundry Notice that includes other surface-disturbing activities. The authorized officer will act on the application in one of two ways:

Within 30 days after the operator has submitted a complete application including incorporating any changes that resulted from the onsite inspection the BLM will:

1. Approve the application subject to reasonable conditions of approval if the requirements of the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act (ESA), or other applicable law have been completed and, if on FS lands, FS has approved the Surface Use Plan of Operations; or
2. Notify the operator that it is deferring action on the permit. The notice of deferral must specify:
 - a. Any action the operator could take that would enable BLM to issue a final decision on the application, with FS concurrence if appropriate. Actions may include but are not limited to; assistance with data gathering or assistance with preparation of analyses and documents;

- b. And if necessary, a list of actions that BLM or the FS, if appropriate, need to take, including completing requirements of NEPA or other applicable law and a schedule for completing these actions.

The operator has 2 years from the date of the notice of deferral to take the action specified in the notice. If all analyses required by NEPA, NHPA, ESA and other applicable laws have been prepared, BLM and with FS concurrence, if appropriate, shall make a decision on the permit within 10 days of receiving a report from the operator addressing all of the issues or actions specified in the deferral notice and certifying that all required actions have been taken. If the operator has not completed the actions specified in the notice, BLM may deny the permit at any time later than 2 years from the operator's receipt of the deferral notice."

For drilling operations on lands with state or private mineral ownership, the lessee must meet the requirements of the mineral owner and the state regulatory agency. The BLM does not have jurisdiction over nonfederal minerals; however, the BLM has surface management responsibility in situations of BLM surface over nonfederal mineral ownership.

When final approval is given by the BLM, the operator may begin construction and drilling operations. Approval of an APD is valid for two years and the operator can request a two year extension. If construction does not begin within two years, the permit must be reviewed prior to approving another APD.

A Sundry Notice is used to approve other surface and subsurface lease operations. When a well is no longer useful, the well is plugged and the surface reclaimed. A Sundry Notice is also used to approve well plugging and reclamation operations, although verbal approval for plugging may be given for a well that was drilled but not completed for production.

The period of bond liability is terminated after all wells covered by the bond are properly plugged and the surface reclaimed. The lands may then become available for future leasing.

D.4 Application for Permit to Drill

Applications for Permit to Drill are approved for the Billings Field Office by the supervisor of the Miles City DO. The approved APD includes Conditions of Approval, and Informational Notices that cite the regulatory requirements from the Code of Federal Regulations, Onshore Operating Orders and other guidance.

D.5 Conditions of Approval

Conditions of approval are mitigation measures that implement restrictions in light of site-specific conditions. General guidance for conditions of approval and surface operating standards is found in the BLM and USFS brochure entitled "Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development" (USDI, BLM P-417) and BLM Manual 9113 entitled "Roads". The BLM commonly applies best management practices when approving APDs. The sources of many of these may be found in RMP Appendix B.

The following mitigation measures may be applied to approved permits to drill as conditions of approval. The listing is not all-inclusive, but presents some possible conditions of approval that may be used in the planning area. The wording of the condition of approval may be modified or additional conditions of approval may be developed to address specific conditions.

In addition to the best management practices identified in Appendix B, the BLM will also develop site-specific practices on a case-by-case basis as needed.

D.6 Construction

Construction of the access road and the well site is necessary before drilling operations begin. The extent of surface disturbance necessary for construction depends on the terrain, depth of the well, drill rig size, circulating system, and safety standards.

The depth of the drill test determines the size of drill rig needed, and therefore, the size of the work area necessary, the need for all-weather roads, water requirements, and other needs. The terrain influences the construction problems and the amount of surface area to be disturbed. Reserve pit size may vary because of well depth, drill rig size, or circulating system.

Access roads to well sites in the planning area usually consist of running surfaces 14 to 24 feet wide that are ditched on one or both sides. Many of the roads constructed will follow existing roads or trails. New roads might be necessary because existing roads are not at an acceptable standard. For example, a road may be too steep so that realignment is necessary.

Roads can be permanent or temporary, depending on the success of the well. The initial construction can be for a temporary road; however, it is designed so that it can become permanent if the well produces. Not all temporary roads constructed are immediately rehabilitated when the drilling stops. A temporary road is often used as access to other drill sites. The main roads and temporary roads require graveling to be maintained as all-weather roads. This is especially important in the spring. Access roads may be required to cross public lands to a well site located on private or state lands. The portion of the access road on public land would require a BLM right-of-way.

The amount of level surface required for safely assembling and operating a drilling rig varies with the type of rig, but averages 300 feet by 400 feet. Approximately 3-1/2 acres would be impacted by well site construction. The area is cleared of large vegetation, boulders, or debris. Then the topsoil is removed and saved for reclamation. A level area is then constructed for the well site, which includes the reserve pit. Bulldozers and motor scrapers are typically used to construct the well pad. The well pad is flat (to accommodate the drill rig and support equipment) and large enough to store all the equipment and supplies without restricting safe work areas. The drill rig must be placed on "cut" material rather than on "fill" material to provide a stable foundation for the rig. The degree of cutting and filling depends on terrain; that is, the flatter the site, the less dirt work is required.

Hillside locations are common, and the amount of dirt work varies with the steepness. A typical well pad will require a cut 10 feet deep against the hill and a fill 8 feet high on the outside. It is normal to have more cut than fill to allow for compaction, and any excess material is then

stockpiled. Eventually, when the well is plugged and abandoned, excavated material is put back in its original place.

Reserve pits are normally constructed on the well pad. Usually the reserve pit is excavated in "cut" material on the well pad. The reserve pit is designed to hold water, drill cuttings, and used drilling fluids. Generally, reserve pits are rectangular in shape and 8 to 12 feet deep, however, the size and number of pits depends on the depth of the well, circulating system and anticipated down hole problems, such as excess water flows. The reserve pit can be lined with a synthetic liner to contain pit contents and reduce pit seepage. Not all reserve pits are lined; however, BLM can require a synthetic liner stipulations and conditions attached to the approved APD and the drilling equipment is moved to another location.

If the well is a producer, casing is set and cemented in place.

Directional drilling may be used where the drill site cannot be located directly over the drilling target. There are limits to both the degree that the well bore can be deviated from the vertical and the horizontal distance the well can be drilled away from the well site.

Horizontal wells are drilled similarly to directional wells, except that the bottomhole location of the well is not a single point, but rather a lateral horizontal section. They are drilled to increase the recovery oil and gas reserves from vertically fractured reservoirs, or reservoirs with directional permeability.

D.7 Environment and Safety

During drilling and production operations for any well, the BLM will enforce the provisions of the regulations, Onshore Oil and Gas Operating Orders, and Notice to Lessees NTL-MSO-1-92, Report of Undesirable Events, to ensure operations are carried in a manner that protects the mineral resources, other natural resources, and environmental quality. Regulations at 43 CFR § 3162.5 require that the operator exercise due care and diligence to assure that leasehold operations do not result in undue damage to surface or subsurface resources or surface improvements. All produced water must be disposed of by methods approved by the BLM. Upon completion of operations the operator shall reclaim the surface in a manner approved of by the BLM. All spills or leakages of oil, gas, produced water, toxic liquids, blowouts, fires, personal injuries, and fatalities must be reported by the operator. The operator is required to exercise care in taking measures approved by the BLM to control and remove pollutants and extinguish fires. An operator's compliance with the regulations at 43 CFR § 3162.5 does not relieve him of the obligation to comply with any other law or regulations. Finally, the regulations authorize the BLM to require an operator to file a contingency plan describing procedures to be implemented to protect life, property, and the environment.

D.8 Informational Notice

The following items are from the federal oil and gas regulations (43 CFR 3160, Onshore Orders Numbers 1 and 2, NTLs, and other guidance). This is not a complete list of requirements but an abstract of some major requirements.

1. General Requirements

- a. The lessee or designated operator shall comply with applicable laws and regulations; the lease terms, onshore oil and gas orders, NTLs; and other orders and instructions of the AO. Any deviation from the terms of the approved APD requires prior approval from the BLM (43 CFR 3162.1(a))
- b. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (caused by a contraction in the unit or other lease or unit boundary change), the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental or other financial obligations determined by the AO.

2. Drilling Operations (Onshore Order No. 2)

- a. Onshore Order No. 2 requires surface casing shall have centralizers on the bottom three joints of the casing (a minimum of one centralizer per joint, starting with the shoe joint) (BLM 1988).
- b. If drill stem tests are run, the MCFO shall be notified at least 6 hours prior to testing. All applicable safety precautions outlined in Onshore Order No. 2 shall be observed (BLM 1988).
- c. All indications of usable water (10,000 parts per million or less total dissolved solids) shall be reported to the MCFO prior to running the next string of casing or before plugging orders are requested, whichever occurs first.

3. Well Abandonment (43 CFR 3162.3-4, Onshore Order No. 1, Sec. V)

- a. Approval for abandonment shall be obtained prior to beginning plugging operations. Initial approval for plugging operations may be verbal, but shall be followed up in writing within 30 days. Subsequent and final abandonment notifications are required and shall be submitted on SNs and Reports on Wells, Form 3160.5, in triplicate.

4. Reports and Notifications (43 CFR 3162.4-1, 3162.4-3)

- a. Within 30 days of completion of the well as a dry hole or producer, a copy of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions, or data obtained and compiled during the drilling, workover, or completion operations shall be filed with Well Completion or Recompletion Report and Log, Form 3160-4, in duplicate.
- b. In accordance with 43 CFR 3162.4-3, this well shall be reported on MMS Form 4054, "Oil and Gas Operations Report, starting with the month in which any operations commence, including drilling, and continuing each month until the well is physically plugged and abandoned.

- c. Notify this office within 5 business days of production start-up if either of the below conditions occur:
 - i. the well is placed on production ("placed on production" means shipment or sales of hydrocarbons from temporary tanks, production into permanent facilities, or measurement through permanent facilities); or
 - ii. the well resumes production after being off production for more than 90 days.

Notification may be written or verbal with written follow-up within 15 days and must include the following information:

- a. operator name, address, and telephone number;
 - b. well name and number, county and state;
 - c. well location, "1/4-1/4, Section, Township, Range, P.M.";
 - d. date well begins or resumes production;
 - e. the nature of the well's production (crude oil, or crude oil casing gas, or natural gas and entrained liquid hydrocarbons);
 - f. the federal or Indian lease number;
 - g. as appropriate, the Unit Agreement name, number, and Participating Area name; and
 - h. as appropriate, the Communitization Agreement
- 5. *Environmental Obligations and Disposition of Production (43 CFR 3162.5-1, 3162.7-1 and 40 CFR 302.4)***
- a. With BLM approval, water produced from newly completed wells may be temporarily disposed of into unlined pits for up to 90 days. During this initial period, application for the permanent disposal method shall be made to this office in accordance with Onshore Order No. 7 (BLM 1993). If underground injection is proposed, a USEPA or state permit shall also be obtained.
 - b. Spills, accidents, fires, injuries, blowouts, and other undesirable events must be reported to this office within the timeframes in NTL-3A (BLM 1979b).
 - c. Gas may be vented or flared during emergencies, well evaluation, or initial production tests for a time period of up to 30 days or the production of 50 million cubic feet (mmcf) of gas, whichever occurs first. After this period, approval from this office shall be obtained to flare or vent gas in accordance with NTL-4A (BLM 1980b).

6. Well Identification (43 CFR 3162.6)

Each drilling, producing, or abandoned well shall be identified with the operator's name, the lease serial number, the well number, and the surveyed description of the well (either footages or the quarter-quarter section, the section, township, and range). All markings shall be legible and in a conspicuous place.

7. Site Security (43 CFR 3162.7.5)

- a. Oil storage facilities shall be clearly identified with a sign, and tanks must be individually identified (43 CFR 3162.6 (c)).
- b. Site security plans shall be completed within 60 days of production startup (43 CFR 3162.7-5(c)).
- c. Site facility diagrams shall be filed in this office within 60 days after facilities are installed or modified (43 CFR 3162.7-5(d)(1)).

8. Confidentiality (43 CFR 3162.8)

All submitted information not marked "CONFIDENTIAL INFORMATION" will be available for public inspection upon request.

D.9 Production and Development

D.9.1 Production

Production begins when a well yields oil or gas in commercial quantities. If formation pressure is sufficient to raise oil to the surface, the well is completed as a flowing well. A pumping unit is installed if the formation pressure is not sufficient to bring the oil to the surface. When the well is completed as a free-flowing well, an assembly of valves and special connections known as a "Christmas tree" (so called because of its many branch like fittings) is installed on top of the casing to regulate the flow of the well. Later, when the natural pressure declines, the Christmas tree can give way to a simple wellhead arrangement of valves and a pumping unit to lift the oil artificially. Many pumping units are "beam" style pumps that are powered by electric motors or gasoline engines. Most gas wells produce by natural flow and do not require pumping. Surface facilities at a flowing well are usually in a small area containing a gas well Christmas tree, a dehydrator, a produced water pit, and a meter house. Separators, condensate tanks, and compressors may be included. Some gas wells require continuous water pumping as water entering the well chokes off the gas flow.

D.9.2 Development

New field development may be analyzed under NEPA by means of an environmental assessment (EA) or environmental impact statement (EIS) usually after the second or third confirmation well is drilled. The operator should then have an idea of the extent of drilling and disturbance required to extract and produce the oil and gas. When an oil or gas discovery is made, a well spacing

pattern must be established before development drilling begins. Development can take years and include from one or two wells to more than a hundred wells per field. However, the reasonably foreseeable development scenario for this planning document should only forecasts two additional wells per field. Roads to producing wells are upgraded to all-weather roads as necessary. Pipelines, electrical transmission lines, separators, dehydrators, sump pits, and compressor stations soon follow. Sometimes oil and gas processing facilities are built in or adjacent to the field.

D.9.2.1 Further Seismic Testing

More detailed seismic work can be done to achieve better definition of the petroleum reservoir. Diagonal seismic lines can be required to tie the previous seismic work to the discovery well. The discovery well can be used to conduct studies to correct the previous seismic work and provide more accurate subsurface data.

D.9.2.2 Spacing Requirements

A well spacing pattern must be established before development drilling begins. Information considered in establishment of a spacing pattern includes data from the discovery well on porosity, permeability, pressure, composition, and depth of formations in the reservoir; well production rates and type (predominantly oil or gas); and the economic effect of the proposed spacing on recovery. The state of Montana establishes well spacing patterns for both exploratory and development wells which the BLM generally adopts. The state specifies the minimum distance from lease lines or government survey lines for the bottom-hole location of the well bore depending upon depth of the well. The spacing regulations determine the acres assigned to each well. Spacing unit size is established to provide for the most efficient and economic recovery of oil or gas from a reservoir. Normal well spacing ranges from 40 acres to 640 acres (refer to Billings/Pompeys Pillar RFD for Oil and Gas). Wells deeper than 11,000 feet can be no closer than 1,650 feet to other producing wells below 11,000 feet. Only one producing well per formation is allowed in each 40, 80, 160, 320, and 640-acre unit.

D.9.2.3 Drilling of Development Wells

The procedures used in drilling development wells are the same as those used for wildcat wells, but usually with less subsurface sampling, testing, and evaluation. The rate at which development wells are drilled in a field depends on factors such as whether the field is developed on a lease basis or unitized basis, the probability of profitable production, the availability of drilling equipment, lease requirements, and the degree to which limits of the field are known. Some fields go through several development phases, the first resulting from the original discovery and others from later discovery. A field can be considered fully developed and produce for several years, and then a well may be drilled to a deeper or shallower pay zone. Discovery of a new pay zone in an existing field is a "pool" discovery (as distinguished from a new field discovery). A pool discovery may lead to the drilling of additional wells, often from the same drilling pad as existing wells.

D.9.2.4 Inspections

Geophysical operations and lease operations are inspected to determine compliance with approved permits, to resolve conflicts or correct problems and to determine effectiveness and need of lease stipulations. All inspections are documented. Operators are required to correct problems or violations.

D.9.2.5 Surface Requirements

Field development activities that cause surface disturbance include access roads, well sites, production facility sites, flow line and utility line routes and waste disposal sites. Surface uses in a gas field will be less than in an oil field, because gas wells are usually drilled on larger spacing units. The spacing pattern of 640 acres per well, which is common in gas fields, will require only one well per section and might require only ½ mile of access roads and pipelines. Production facilities include separation and storage equipment. Separation equipment is required when production includes a combination of oil, gas, or water and storage equipment is required for holding liquids prior to sales.

D.9.2.6 Flow Lines

Oil and gas are transferred from the well to storage facilities through small diameter (<6 inches) flow lines. Flow lines can be on the surface, buried or elevated. Produced water, gas, or polymerized liquid is transferred from storage facilities to injection wells for secondary recovery.

D.9.2.7 Separating, Treating, and Storage

Any water or gas associated with produced oil is separated from the oil before it is placed in storage tanks. The treating facilities are located at a storage tank battery. Low-pressure petroleum that must be pumped from the well is treated in a single separation. High pressure, flowing petroleum can require several stages or separation, with a pressure reduction accompanying each stage.

Produced gas is sold when there is sufficient volume, necessary transportation, a market, and it is economical. Generally, if the volume of produced gas is too low for sales, it is used as fuel for well pump engines and heating fuel for the treaters. If the volume of produced gas exceeds fuel requirements on the lease but gas sales are not possible, the gas can be flared or vented into the atmosphere when authorized by permit in accordance with state and federal regulations. When water is produced with the hydrocarbons, it is separated before the gas is removed. In primary operations, where natural pressures or gravity causes the petroleum in the reservoir to flow to the wellbores, the degree of mixing is high enough to require chemical and heat treatment to separate the oil and water. In secondary production, where water injection or other methods are used to force additional petroleum to the wellbore, the oil and water often are not highly emulsified. In this case, the oil and water can be separated by gravity in a tall settling tank. Produced water can be disposed of by injection into the subsurface, surface evaporation or beneficial purposes such as water for livestock or irrigation.

Produced water from oil and gas operations is normally disposed of by subsurface injection or in surface pits. Regardless of the method of disposal, it must be acceptable to the BLM, in

accordance with the requirements of Onshore Oil and Gas Order No. 7, titled "Disposal of Produced Water." Disposal of produced water by injection wells requires permits from the Montana Board of Oil and Gas Conservation. When produced water is disposed underground, it is introduced or injected under pressure into a subsurface horizon containing water of equal or poorer quality. Produced water may be injected into the producing zone from which it originated to stimulate oil production. Dry holes or depleted wells are commonly converted for saltwater disposal and occasionally new wells are drilled for this purpose. The law and regulations require that all injection wells be permitted under the Underground Injection Control program.

Under the Underground Injection Control approval process, the disposal well must be pressure tested to ensure the integrity of the casing. The disposal zone must also be isolated by use of tubing and mechanical plug called a packer. The packer seals off the inside of the casing and only allows the injected water to enter the disposal zone. The tubing and packer are also pressure tested to ensure their integrity. These pressure tests confirm isolation of the disposal zone from possible usable water zones. The oil is transported to storage tanks through flow lines after separation from any water or gas. Storage tanks are usually located on the lease either at the producing well or at a central production facility. The number and size of tanks are dependent upon the type and amount of production on the lease.

D.9.3 Abandonment

When drilling wells are unsuccessful or production wells are no longer useful, the well is plugged, equipment is removed from the well site or production facility site, and the site is abandoned. The well bore is secured by placing cement plugs to isolate hydrocarbon-producing formations from contaminating other mineral or water bearing formations. The site and roads are then restored as near as possible to original contours. Topsoil is replaced and the recontoured areas are seeded. Reclamation of access roads and well sites on privately owned surface is completed according to the surface owner's requirements.

Rehabilitation requirements generally are made a part of the Application for Permit to Drill. Upon completion of abandonment and rehabilitation operations, the lessee or operator notifies the Miles City DO that the location is ready for inspection. Final abandonment will not be approved until the required surface reclamation work has been completed to the satisfaction of the BLM or surface owner. The period of bond liability for the well site is terminated after approval of final abandonment. Reclamation of the reserve pit is part of the well site reclamation process. Reserve pit reclamation includes removal of fluids to a disposal well or commercial pit and burial of solids in the pit. Solids should not be buried until dry and then covered with a minimum of 6 feet of native soil. Any pit liner may be buried in place. Methods such as solidification or dewatering may be used to help dry the solids.

D.10 Regulations, Laws, and Special Procedures

D.10.1 Unit and Communitization Agreements

Unit and communitization agreements can be formed in the interest of conservation and to allow for the orderly development of oil and gas reserves. A unit agreement provides for the recovery

of oil and gas from the lands as a single consolidated entity without regard to separate lease ownerships. An exploratory unit is used for the discovery and development of the field in an orderly and efficient manner. Paying and nonpaying well determinations are made for each well drilled. If the well is nonpaying as defined by the agreement, the production is allocated on a lease basis. If the well is a paying unit well, a participating area is formed and the production is allocated to all interest owners in the participating area based on surface area. A secondary unit is formed after the field has been defined and enhanced recovery techniques are being utilized. Secondary recovery techniques include water injection, natural gas injection, or carbon dioxide injection. Injection is initiated to maintain the reservoir pressure to maintain oil production. The agreement provides for the allocation of production among all the interest owners.

A communitization agreement combines two or more leases (federal, state, or fee) that otherwise could not be independently developed in conformity with established well spacing patterns. The leases within the spacing unit share in the costs and benefits of the well drilled in the spacing unit. Therefore, unit and communitization agreements can lessen the amount of damage to the environment and save dollars by eliminating unnecessary wells, roads, pipelines, and lease equipment.

D.10.2 Split Estate

Part of the area included in the planning area contains lands known as split estate lands. These are lands where the surface ownership is different from the mineral ownership. Management of federal oil and gas resources on these lands is somewhat different from management on lands where both surface and mineral ownership is federal. On split estate lands where the surface ownership is private, the BLM places necessary restrictions and requirements on its leases and permit approvals and works in cooperation with the surface owner. BLM has established policies for the management of federal oil and gas resources in accordance with federal laws and regulations.

The BLM does not have the legal authority to regulate how private surface is managed. BLM does have the statutory authority to require measures by lessees to avoid or minimize adverse impacts that may result from federally authorized mineral lease activities. These measures, in the form of lease stipulations or permit conditions of approval, are intended to protect or preserve the privately owned resources and prevent adverse impacts to adjoining lands, not to dictate management to the surface owner. The term split estate can also refer to lands where the surface ownership is federal and the mineral ownership is private. In this situation, BLM is the surface owner, and works in cooperation with the proponent and the state regulatory agency that approves private mineral applications. BLM has responsibilities in this situation under the previously mentioned statutes; however, BLM does not have the authority to approve or disapprove the mineral owner's actions. The mineral estate owner usually has the right to enter the land and use the surface that is necessary and reasonable for mineral development through either a reserved or an outstanding right contained in the deed.

D.11 Summary – Billings/Pompeys Pillar Reasonably Foreseeable Development Scenario

D.11.1 Summary

The Billings Resource Management Plan will guide management for the approximately 434,158 acres of federally managed surface and about 690,000 subsurface (oil and gas mineral estate) acres administered by the Billings Field Office (BiFO) in western Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland and Yellowstone counties.

Conventional oil and natural gas occurrence and development potential ranges from Low to Moderate across the entire field office area. The occurrence potential for coal bed natural gas (CBNG), and gas from organic shales ranges from Low to High. Development potential for CBNG ranges from Low to Moderate; development potential for gas from organic shales ranges from Low to Moderate.

The BLM administers approximately 690,000 acres of federal minerals (for fluid minerals) within the Billings Field Office. The RFD forecasts the following level of development in the entire Billings FO planning area.

The expected Billings FO total wells drilled per year equals 20 per year with three to four federal wells per year over a 20-year span. These wells could be in one of the three areas identified in the table below. The RFD scenario classified moderate potential lands as having the potential for one to five wells drilled per township per year. Low potential lands have the potential for less than one well per year per township.

Table 15. RFD Projected Forecast Drilling Depths, and Forecast Surface Disturbance by Basin

Location	Common Drilling Depth in Feet	Likely Product	Size of Drill Site in Acres	Access and Ancillary Facilities in Acres
Central Montana Uplift and Bull Mountain Basin	5,000	Oil with associated gas; CBNG	2	1.5
Big Horn Basin	7,000	Oil with associated gas; Gas; CBNG	3	1.5
Crazy Mountain Basin	8,000 – 10,000	Gas	4	1.5

The RFD scenario identified these areas and contains more information about them. Total annual disturbance for federal wells is approximately 13.5 acres to 27 acres of short-term disturbance (several years) and 5.5 to 15.5 acres of long-term disturbance for federal wells drilled in the Billings FO.

A complete copy of the Billings RMP RFD can be found at http://www.blm.gov/mt/st/en/fo/billings_field_office/rmp/docs.html. This information is presented only as a summary.

D.11.2 Background

The Billings Field Office is located in south-central Montana. There has been a long history of exploration and development within this area. The following information describes the historic activities associated with drilling in the area, with subsequent information, charts and graphs indicating the cumulative number of wells drilled, and notable dates.

D.11.2.1 Drilling and Development History

The first drilling in Montana occurred near the ‘Cruse’ oil seeps, in Carbon County, in about 1890. Drilling occurred along strike (northwest-southeast) to the Beartooth Mountain front. Only small volumes of low gravity oil were reportedly produced.

The Elk Basin area in Carbon County experienced early development, as an extension of the Wyoming portion of the field. The first drilling occurred about 1915; this activity pre-dated the Mineral Leasing Act of 1920. At that time, oil was developed as a placer mineral on mining claims located under the General Mining Act of 1872, as amended by the Petroleum Placers Act of 1897. Many of these petroleum placers went to patent (became private land).

Further drilling occurred as operators attempted to expand the known producing area along the axis of the Elk Basin anticline. The field limits were extended to the northwest, with the later discoveries at Elk Basin Northwest, Clarks Fork, the Clarks Fork North and Clarks Fork South fields. In the same time frame (1910s-1920s), exploration occurred at the Dry Creek Dome in central Carbon County. Natural gas was discovered there in 1919, and extended into Golden Dome in 1962.

In Big Horn County, the Soap Creek Oil Field was discovered in 1920, and expanded by new drilling as recent as 2005. The Hardin Gas Field was discovered in 1928, and expanded by new drilling into the 1930s, with the most recent well drilled in 1975.

Early prospecting for oil was concentrated around geologic structures that were exposed at the surface. These structures, often called “Sheepherder Anticlines”, were believed to be indicators of potential oil reservoirs within subsurface structures. Most of the early exploration and development occurred in proximity to these exposed anticlines and domes. Many oil and gas fields are still identified by these surface structures (i.e., Golden Dome, Gage Dome, and Dean Dome). Often, the earliest wells drilled within these structures were not drilled deep enough, and did not achieve a discovery.

Many other anticlines were ‘breached’ by erosion that exposed the reservoir rock, leaving only stained or bleached rock as indications of the past presence of oil. This is the case on the east flank of Red Dome, in Carbon County. Here, the Triassic Chugwater Formation red beds have zones of sandstones that are gray; the oil, while it was in the rock, prevented the oxidation of the iron in the rock matrix and cement.

The first drilling in Musselshell County was not successful, but by 1920, oil was discovered in the Heath Lime, at Devil’s Basin field. By the end of 1921, oil had been discovered in the Soap Creek field in Big Horn County and the Lake Basin field in Stillwater County. Mosser Dome field in southwestern Yellowstone County opened in 1936.

In the 1940s, additional oil fields were discovered in Musselshell County, including Gage Dome, Ragged Point, Big Wall and Melstone. All were surface structures ('Shepherd Anticlines'), with the oil found in Mississippian carbonate rocks (Amsden, Kibbey, Heath and Tyler Formations). New fields were discovered in surface structures (Ivanhoe, Stensvad, Delphia, Hawk Creek, Hiawatha, Keg Coulee, Pole Creek, Mason Lake), and existing fields were expanded, into the 1960s. Similarly, exploration of the surface structure at Wolf Springs resulted in an oil discovery in Yellowstone County in 1955 and at Weed Creek in 1967.

The first gas production in Sweet Grass County occurred when the Six Shooter Dome field was discovered in 1947. First production in Golden Valley County occurred with the discovery of gas in the Big Coulee field, in 1948. Later that year, oil was discovered in Golden Valley's Woman's Pocket and Devil's Pocket fields.

In 1953, the Ash Creek field in southern Big Horn County was discovered, with oil produced from the Upper Cretaceous Shannon Formation. The Mackay Dome and Roscoe Dome fields, in southern Stillwater and Carbon Counties, respectively, were discovered in the late 1950s. Both produce from Lower Cretaceous sandstones.

In the 1970s, the Rapelje gas field in Stillwater County was discovered.

Two oil price shocks in the 1970s resulted in a quadrupling of the price of oil over a four-year period, from around \$3.00 per barrel in mid-1973, to over \$12.00 per barrel in 1977. The Islamic Revolution in Iran in 1979 sent oil prices still higher, with the price peaking at over \$38.00 per barrel in 1981.

The rapid increase in the price of oil resulted in a rush of new prospect generation. Even prospects that had a low probability of finding product were drilled. Conservation and new discoveries led to an increased supply while demand was falling, resulting in a price collapse, with oil in Montana falling below \$10.00 per barrel in early 1986. For the rest of the 1980s, the BLM allowed operators to leave their wells 'shut in' (in a non-producing status). This policy allowed operators to maintain their wells without having to operate them at an economic loss.

In 1992, the BLM terminated the above policy, and issued new regulations that provided for a reduced royalty rate for oil properties that averaged less than 15 barrels of oil per well per day (so-called 'stripper wells/properties'). The royalty rate reduction (RRR) was intended to reduce operators' operating costs, and encourage the greatest ultimate recovery of oil. The BLM anticipated that operators would take advantage of this incentive and work over existing wells to restore or increase production within these properties. The RRR would be recalculated every year, and could fall further if the average production rate continued to decrease. The regulation was in effect for about 14 years, and terminated effective February 1, 2006 (when the oil price exceeded the threshold established in the regulation).

D.11.2.2 Federal Surface and Mineral Ownership within the Billings Field Office

Charts 1 and 2, below, provide the distribution of surface and mineral ownership, by county, within the Billings Field Office. Chart 3 presents surface and mineral ownership by Federal Agency. The data are from LR 2000, as of May 20, 2009.

Chart 1: Surface, Oil & Gas Mineral Ownership, and acres of O&G leases by County (All Surface Management Agencies)

County	Federal Surface Ownership	Federal Oil & Gas Mineral Ownership	O&G Leases	Leased Acres ²	Percent of O&G Leased
Big Horn ¹	0.00	3,989.29	5	3,934.47	98.6%
Carbon	552,535.16	609,950.40	99	53,575.45	8.7%
Golden Valley	31,644.63	66,550.80	17	18,062.96	27.1%
Musselshell	100,458.12	140,922.31	79	56,641.02	40.2%
Stillwater	192,196.58	243,221.64	32	24,232.23	10.0%
Sweet Grass	297,308.04	356,378.33	25	19,772.71	5.5%
Wheatland	63,604.24	84,463.43	3	1,022.52	1.2%
Yellowstone	69,725.38	105,708.45	20	9,023.20	8.5%
Totals	1,307,472.15	1,611,184.65	280	186,264.56	11.5%

Footnotes:

1. Big Horn County includes only the portion within the Billings Field Office (west of R. 39 E.)
2. Including leases sold at the Montana Competitive Oil and Gas Lease Sale held on January 27, 2009

Chart 2: Surface, Oil & Gas Mineral Ownership and acres of O&G leases by County, Managed by the Billings Field Office

County	BLM-Managed Surface	BLM-Managed Oil & Gas Mineral Ownership	O&G Leases	Leased Acres ²	Percent of O&G Leased
Big Horn ¹	0.00	3,989.29	5	3,934.47	98.6%
Carbon	205,156.46	260,531.10	97	51,228.80	19.7%
Golden Valley	7,844.19	42,750.36	17	18,062.96	42.3%
Musselshell ³	92,632.23	129,108.14	793	56,401.02	43.7%
Stillwater	5,519.49	55,944.07	29	19,994.23	35.7%
Sweet Grass	15,833.58	73,584.22	25	19,772.71	26.8%
Wheatland	1,194.91	22,054.10	3	1,022.52	4.6%
Yellowstone	69,725.38	105,708.45	20	9,023.20	8.5%
Totals	397,906.24	689,680.44	275	179,439.91	26.0%

Footnotes:

1. Big Horn County includes only the portion within the Billings Field Office (west of R. 39 E.)
2. Including leases sold at the Montana Competitive Oil and Gas Lease Sale held on January 27, 2009;
3. There are two Federal O&G leases that include both BLM and FWS surface

Chart 3: Total Surface and Oil and Gas Mineral Ownership (in acres) by County, by Surface Management Agency

County	BLM		FS		FWS		BIA		NPS	
	Surface	Oil & Gas Mineral Ownership	Surface	Oil & Gas Mineral Ownership	Surface	Oil & Gas Mineral Ownership	Surface	Oil & Gas Mineral Ownership	Surface	Oil & Gas Mineral Ownership
Big Horn ¹	0	0	0	0	0	0	0	3,989.29		
Carbon	205,156.46	260,531.10	323,682.62	323,683.22					23,696.08	25,736.08
Golden Valley	7,844.19	42,750.36	23,800.44	23,800.44						
Musselshell	92,632.23	129,108.14	0	0	7,825.89	11,814.17				
Stillwater	5,519.49	55,944.07	185,604.65	185,885.13						
Sweet Grass	15,833.58	73,584.22	281,474.46	282,794.11	1,072.44	1,392.44				
Wheatland	1,194.91	22,054.10	62,409.33	62,409.33						
Yellowstone	69,725.38	105,708.45	0	0						
Totals	397,906.24	689,680.44	876,971.50	878,572.23	8,898.33	13,206.61	0	3,989.29	23,696.08	25,736.08
Footnotes										
1. Big Horn County includes only the portion within the Billings Field Office (west of R. 39 E.).										

Appendix E:
Areas of Critical Environmental Concern

Report on the Application of the Relevance and Importance Criteria

Prepared by:
United States Department of the Interior
Bureau of Land Management
Billings Field Office

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E. Areas of Critical Environmental Concern

E.1 Executive Summary

As part of the Billings/Pompeys Pillar Resource Management Plan (RMP) process, the RMP Interdisciplinary Team (IDT) analyzed whether proposed Areas of Critical Environmental Concern (ACEC) meet the relevance and importance criteria. The Billings Field Office (BiFO) analyzed 14 nominated ACECs (existing, internally and externally proposed). Based on the analysis, 13 ACEC nominations met the relevance and importance criteria and 1 ACEC nomination did not. Twelve were carried forward for analysis as one nomination did not need special management. The following table summarizes each ACEC proposal, the rationale for the nomination and whether or not it will be carried forward for analysis in the RMP.

Table E-1 ACEC Determinations

Existing or Proposed ACECs	Nominated by:	Rationale	Carried forward for analysis
Bridger Fossil Area	Internal (previous decision)	protect paleontological values and NNL	Yes
Castle Butte	Internal (previous decision)	protect unique cultural values	Yes
East Pryor	Internal (previous decision)	Wild horse habitat, wildlife habitat, historical/cultural and paleontological resources, special status plant species, Crooked Creek Natural Area and Crooked Creek NNL	Yes
Four Dances	Internal (previous decision)	significant historic, cultural or scenic values, peregrine falcon nesting habitat, and for the "natural hazards" of the cliffs	Yes
Grove Creek	Internal / External	significant archaeological and traditional cultural values and special status species plants	Yes
Meeteetse Spires	Internal (previous decision)	Unique vegetation and scenic values and rare plant protection	Yes
Petroglyph Canyon	Internal (previous decision)	protect unique cultural values	Yes
Pompeys Pillar	Internal (previous decision)	Protect historic and cultural values	Yes
Pryor Foothills RNA	External	Area has a large concentration of Bureau special status plant species and rare plant communities. The Gyp Springs site contains high historic and cultural values	Yes
Stark Site	Internal (previous decision)	protect unique cultural values	Yes
Sykes Ridge	External	Rare plant protection	No
Weatherman Draw	Internal/External (previous decision)	protect unique cultural values	Yes
Greater Sage-Grouse Habitat	External	Protect Greater Sage-grouse habitat	Yes
Steamboat Butte	External	Protect unique cultural values	No

These areas (12) will be identified as potential ACECs and will be fully considered for designation and management in the RMP (BLM Manual 1613.2.21). For the areas found not to meet the relevance and importance criteria, “the management prescriptions which are eventually established in the plan for such areas shall reflect consideration of the identified values.”

E.2 Introduction

As part of the process for developing the Billings/Pompeys Pillar RMP, the BLM, Billings Field Office (BiFO) IDT reviewed all BLM-administered public lands in the planning area to determine whether any areas should be considered for designation as Areas of Critical Environmental Concern (ACECs). The public was also requested (through scoping and notification in the *Federal Register* Notice of Intent to identify areas they feel should be considered for management as an ACEC (or other special designation).

The Federal Land Policy and Management Act (FLPMA) **requires that priority** shall be given to the designation and protection of ACECs. Areas of Critical Environmental Concern are defined in the FLPMA Sec. 103[43 U.S.C. 1702] (a) and in 43 C.F.R. 1601.0-5(a) as “areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.”

The following analysis and the resultant findings for ACEC relevance and importance criteria has been performed pursuant to FLPMA Sec. 202[43 U.S.C. 1712] (c)(3), 43 C.F.R. 1610-7-2 and BLM 1613 Manual.

E.3 Requirements for ACEC Designation

To be eligible for designation as an ACEC, an area must meet the relevance and importance criteria described in 43 Code of Federal Regulations (CFR) 1610.7-2 and BLM Manual 1613, *Areas of Critical Environmental Concern*, and need special management. The determinations in this report deal strictly with the relevance and importance criteria, and not special management attention.

Special management attention refers to “*management prescriptions developed during preparation of an RMP or amendment expressly to protect the important and relevant values of an area from the potential effects of actions permitted by the RMP, including proposed actions deemed to be in conformance with the terms, conditions, and decisions of the RMP.*” Thus, these are management measures that would not be necessary and prescribed if the relevant and important values were not present. A management prescription is considered to be special if it is unique to the area involved and includes terms and conditions specifically to protect the values occurring within the area.

BLM Manual 1613 includes the following guidance on incorporating management prescriptions for potential ACECs into appropriate alternatives:

"During the formulation of alternatives, management prescriptions for potential ACEC's are fully developed. Management prescriptions will generally vary across the plan alternatives. If there is no controversy or issues raised regarding the management of a potential ACEC, it may not be necessary to develop a range of management alternatives. In other words, management prescriptions may not vary significantly across alternatives. A potential ACEC (or portion thereof) must be shown as recommended for designation in any or all alternatives in the Draft RMP in which special management attention is prescribed to protect the resource or to minimize hazard to human life and safety. Because special management attention must be prescribed in at least one plan alternative, each potential ACEC will appear as a recommended ACEC in at least one plan alternative. Designation is based on whether or not a potential ACEC requires special management attention in the selected plan alternative (i.e. preferred alternative)."

Relevance and importance are defined as follows:

Relevance: There shall be present a significant historic, cultural, or scenic value, a fish or wildlife resource or other natural system or process, or natural hazard.

Importance: The above described value, resource, system, process, or hazard shall have substantial significance and value, which generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to life or property.

E.3.1 Relevance

An area meets the relevance criterion if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans)
2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity).
3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features).
4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action might meet the relevance criteria if it is determined through the resource management planning process to have become part of a natural process.

E.3.2 Importance

An area meets the importance criterion if it meets one or more of the following:

1. Have more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
2. Have qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3. Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the Federal Land Policy and Management Act (FLPMA).
4. Have qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
5. Poses a significant threat to human life and safety or to property.

E.4 Evaluation Process

In compiling a list of areas to be analyzed in this report, the BLM ID teams followed the guidance set forth in BLM Manual 1613 and considered:

1. Existing ACECs
2. Areas recommended for ACEC consideration (external and internal nominations)
3. Areas identified through inventory and monitoring
4. Adjacent designations of other Federal and State agencies.

ACECs may be nominated by BLM staff, other agencies, or members of the public at any time. During the RMP revision scoping process, the BLM specifically solicited nominations from the public and other agencies. Information on special designations and ACECs was part of the scoping package and included in information made available at the public scoping meetings.

As part of the formal outreach process, the BLM received four external nominations from the public (refer to Table 1). The BLM staff also reviewed information from BLM inventories, data, and other reports to ensure that all potentially relevant and important values within the planning areas were considered.

The maps included in this Draft RMP Map Appendix, along with the ACEC evaluations included in the section below, are for those areas that were found to meet the relevance and importance criteria. The boundaries of some of the proposed external nominations were modified to accurately represent where the values exist. The size and management prescriptions for each ACEC may vary by alternative to reflect a balance between the goals and objectives of the alternative and values being protected (BLM Manual 1613.2.22.B.1&2). The range of alternatives for the size of each ACEC being carried forward for further study is included in Chapter 2 – Alternatives.

ACEC Nomination Evaluation Forms

ACEC NOMINATION EVALUATION

NAME: Bridger Fossil Area ACEC (includes the Bridger Fossil Area National Natural Landmark)

LOCATION:
[REDACTED]

SIZE: 577 acres

NOMINATED BY: BLM

RATIONALE: protect paleontological values

EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

The Bridger Fossil Area ACEC contains spectacular Cloverly Formation exposures and consists of variegated maroon and black shales. The fossils occur in the Cloverly Formation which is locally exposed badlands topography. Early Cretaceous vertebrates are found in this area. Early Cretaceous vertebrates of any kind are rare and poorly known from all regions of North America.

The Bridger Fossil Area National Natural Landmark (designated in November 1973) is a 161 acre locale located entirely within the 577 acre Bridger Fossil Area ACEC. This site has produced nearly all of the known remains of Deinonychus antirrhopus, a new genus and species of carnivorous dinosaur. This small, bipedal flesh-eating dinosaur was about 3.5 feet tall, about 8 feet long, and probably weighted about 150 pounds.

The area includes the fossil remains of Deinonychus antirrhopus, a highly predaceous carnivorous dinosaur from the Cretaceous Cloverly Formation. Interpretation of the anatomy and habits of this creature led to ideas about the warm-bloodedness of dinosaurs, and possible close relationship to modern birds. A bone bed in the Jurassic Morrison Formation contains the remains of numerous juvenile and subadult sauropods. The Museum of the Rockies, Montana State University and the Cincinnati Museum Center - Geier Collections and Research Center (Vertebrate Paleontology) have both conducted long term studies at this site.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

Exposures of the Late Jurassic Morrison and Early Cretaceous Cloverly Formations in this area have yielded fossils of rare dinosaur taxa. While fossil localities dating to this time period exist elsewhere, the quality, concentration, and kinds of fossils present on public lands in the Bridger Fossil Area can provide an outstanding record of the environment and a glimpse of terrestrial life during those periods.

In addition, the area includes the most fossiliferous exposures of the Cloverly Formation in northern Wyoming and southern Montana. Deinonychus and Tenontosaurus, rare dinosaur species have been documented here, as well as an extremely rare concentration of dinosaur egg and embryonic remains. These specimens may hold the answer to central questions in dinosaur research, regarding dinosaur physiology and behavior.

Professor Glenn Storrs (Adjunct Professor of Geology, University of Cincinnati and Director of Science Research & Withrow Farny Curator of Vertebrate Paleontology, Cincinnati Museum Center) has been holding a field school and excavating at the Mother's Day Site each summer for the past several years. The Mother's Day site, which is located within the Bridger Fossil Area ACEC, contains the remains of at least 8 juvenile dinosaurs.

During the summer/fall of 2006, after the field school had ended, the Mother's Day site was vandalized.

Due to the Bridger Fossil Area ACEC containing early Cretaceous vertebrates, this ACEC contains more than locally significant qualities which give it special worth and distinctiveness. There is cause for concern for the fossils located in this ACEC (the vandalism in 2006 and the current market for vertebrate fossils).

2. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

The fossils themselves are fragile, rare, and unique and are threatened by vandalism.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the recommendation of the specialist that the Bridger Fossil Area ACEC be retained as an ACEC. It meets relevance criterion 1 and importance criteria 1 and 2.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date

Mother's Day Site photos



Summer 2007



Summer 2007



Ready for transport – summer 2008

ACEC NOMINATION EVALUATION

NAME: Castle Butte ACEC

LOCATION: [REDACTED]

SIZE: 184 acres

NOMINATED BY: BLM

RATIONALE: protect unique cultural values

EVALUATED BY: Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

- 1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

Castle Butte is a remarkable topographic feature with access from an adjacent county road and is locally well known. It has been known to Euro-Americans since the late 19th Century. Site 24YL0418 at Castle Butte is eligible for the National Register of Historic Places. Castle Butte has significant potential to provide information on Native American cultures of the Northwestern Plains during the Late Prehistoric and Historic time periods. It has clear association with specific ethnic groups still present in this region today, which suggests that it may be considered relevant to contemporary Native Americans.

Although there are numerous known rock art sites in the Northwestern Plains region, many of which are considered eligible to the National Register of Historic Places, site 24YL0418, the complex of rock art at Castle Butte is almost unique in the quality and concentration of artwork, particularly for the early historic time period. Panels at the site are believed to be biographical in character and to actually document events in the lives of 18th and 19th century Northwestern Plains horse nomads.

Castle Butte is one of a handful of sites in the Northwestern Plains which show a range of rock art styles dating over a long period of time. Examples of Native American art styles dating from around AD 1100 to the fur trade period have been identified on the site, as well as historic EuroAmerican graffiti dating from 1874 to the present. The rich concentration of pecked, incised, and more rarely, painted motifs of a variety of styles in a relatively small area has resulted in some panels which show superimposing of elements. This is an important key to the relative dating of the various styles.

Some of the panels at Castle Butte can also be directly associated with adjacent buried archaeological deposits which can be dated through the use of radiocarbon dating techniques. This situation increases the scientific value of the site immensely. Site 24YL0760, an adjacent multiple component camp site, is closely associated with the rock art panels and probably was used by the persons who created the rock art at Castle Butte. Projectile points recovered from the surface of the site show that occupation occurred throughout the period during which the rock art was created.

On-going research into the function of rock art in prehistoric and historic Native American societies on the Plains indicates that stylistic variations may give clues as to the general date of its creation. Information on ethnic affiliation and dates for the rock art can provide significant contributions to our understanding of prehistoric and early historic population movements and interactions on the Northwestern Plains. Because of their excellent preservation as well as the large numbers of individual panels, Castle Butte has been and will continue to be important in such investigations.

Consultations with representatives of Native American tribes elsewhere in the region has shown that rock art sites are often considered highly important and are sometimes sacred locations. Although specific consultation has not been undertaken for Castle Butte, the highly unusual concentration and quality of rock art at the location makes it likely that it too is of importance to contemporary Native groups.

The viewshed is important to the setting of Castle Butte. From Castle Butte one can see south, across the Yellowstone River Valley to the Pryor Mountains and to the northwest to the Steamboat Butte rock art site. Possibly for these reasons this butte was chosen as the location for this rock art.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

There are a number of raptor nest sites within the rock formation that are used for nesting, including a golden eagle nest site.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

Castle Butte meets importance criterion 1. It possesses information that is significant on a regional scale. Information which has been gained from the rock art and that the rock art still has the potential to yield. This has important implication for the understanding of the meaning of stylistic change in Native American rock art throughout the Plains area from Alberta to Texas

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

Castle Butte also meets importance criterion 2. The art is inherently fragile and could easily be destroyed through erosion or vandalism. Episodes of erosion have been documented in recent years in which rocks bearing panels have fallen from the butte. While vandalism is minimal at this time, Castle Butte is somewhat remote, but is easily accessible by county road. The site has been widely published in professional journals and monographs and it is well known locally as an archaeological site. Individual panels are probably valuable to collectors or artifact dealers and many could be easily removed by vandals.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialist's recommendation that Castle Butte be retained as an ACEC.

Castle Butte meets both relevance and importance criteria. This cultural complex consists of two sites: 24YL0418 (an extensive rock art site) and 24YL0760 (a buried occupation site). Each of these sites are considered eligible to the National Register of Historic Places.

Castle Butte is one of the premiere rock art sites of the Northwestern Plains. Information from the site has been used by a number of prominent rock art investigators in constructing and debating an understanding of the sequence and causes of stylistic changes in Native American rock art throughout the High Plains from Alberta to Texas, particularly for the early historic period. The quality, quantity, and concentration of rock art on the site, as well as the potential for relative and absolute dating clearly make this site more than locally significant. Its remote, yet easily accessible location makes it vulnerable to vandalism. Natural erosion is an on-going problem to the site.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date



Battle Scene Petroglyph

ACEC NOMINATION EVALUATION

NAME: East Pryor ACEC

LOCATION: Pryor Mountains

SIZE: 29,550 acres (Alt A), 8,301 acres (Alt B), 32,767 acres (Alt C), 11,122 acres (Alt D)

NOMINATED BY: BLM

RATIONALE: Wild horse habitat, wildlife habitat, historical/cultural, paleontology, SS plants and animals

EVALUATED BY: Jared Bybee, Nora Taylor, Carolyn Sherve-Bybee, Jay Parks, Ernest McKenzie

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. **A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

Sykes Ridge has numerous vision quest sites and is an important religious value to the Crow Indians.

The Demijohn Flat National Register (NR) District provides locally and regionally important values to the area. Currently about 1/4 of the Demijohn Flat NR District is within the existing ACEC boundary, with the rest of the rest of the National Register District not being included within the ACEC boundary.

2. **A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**

Numerous BLM sensitive species inhabit the area these species are: Townsends big-eared bat, spotted bat, pallid bat, Fringed myotis, Peregrine falcon, sage-grouse, Yellowstone cutthroat trout, possibly western spotted skunk. Other species that may inhabit the east priors or migrate seasonally are the Ferruginous Hawk, Swainsons Hawk, Burrowing Owl, numerous LBBs. This area also serves as the only remaining population of Big Horn sheep in the planning area.

3. **A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).**

There are 10 BLM sensitive plant species that occur in the area and include: sweetwater milkvetch, Shoshonea, Lesicas's Bladderpod, Daggett Rockcress, Wind River milkvetch, Obscure Evening primrose, Yellow Beeplant, Leptodactylon phlox, Dwarf mentzelia, Short-leaved bluegrass,

The caves within the area are considered fragile, irreplaceable and vulnerable to adverse impacts.

The southern end of the area in the Crooked Creek NNL has fossil bearing Cretaceous deposits as well as three types of dinosaurs.

The Upper segment of Crooked Creek, located within this ACEC, supports a population of Yellowstone Cutthroat Trout (YCT) (Oncorhynchus clarkii bouvieri) that has been designated a "core population." These pure strain YCT are very valuable in that they can be used to enhance other YCT populations or establish new populations in suitable waters. The YCT are listed as a Species of Concern by the MFWP and a federally sensitive species by the BLM and USFS.

4. **Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.**

The caves are fragile, complex environments with natural hazards requiring special rules for public access and use.

Big Coulee is prone to sudden flash flooding, even if no rainfalls in the low elevations water will flash flood from the high elevation areas and create a natural hazard for anyone in the bottom of big Coulee during an event.

II. IMPORTANCE (characterized by one or more of the following):

1. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

The PMWHR draws visitors locally, nationally and internationally, and provides opportunities for remoteness and solitude, and outstanding wildlife viewing opportunities. The cave ecosystems present in the area are fragile, complex environments that support bat species.

The Demijohn Flat National Register District (24CB0478) provides regionally significant cultural resource values which give it special worth and distinctiveness and cause for concern. Demijohn Flat National Register District retains archaeologically intact remnants of proto-historic period Crow tipi habitation. This site also retains unique qualities of outstanding scientific value on a regional level.

There are many vision quest sites located within the East Pryor ACEC. In most cases vision quest locations were chosen as a result the unhindered viewshed. Many of vision quest sites (and the viewsheds) are considered to be of religious significance to the Crow for the same reasons.

2. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

The caves are fragile, complex environments with natural hazards requiring special rules for public access and use.

Lesica's bladderpod is the only sensitive species found exclusively within the East Pryor ACEC (but also falls within the existing WSA boundary).

Dinosaur fossils of sauropod, ankyosaur, ornithopod, and primitive duckbill are within the Crooked Creek NNL. Large and small dinosaur predator bones are also present.

The size and relatively pristine nature of Demijohn Flat National Register District warrant the additional protection offered by an ACEC designation.

3. **Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?**

There are a number of regulations or policies in place to protect the fragile ecological environment of the East Pryor ACEC, including:

- 1988 cave resource protection act mandates the protection of caves, cave ecosystems, and cave dependent species
- I.M 6840 directs the BLM to manage and protect sensitive species the same as candidate species as to prevent listing under the ESA
- Wild Free-Roaming Horse and Burro Act mandates protection of wild horses
- Paleontological Resources Protection Act 2009 mandates the protection of vertebrate fossils
- ARPA mandates the protection of archeological resources
- Antiquities Act of 1906
- Executive Order 13007 (Sacred Sites)

4. **Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?**
5. **Poses a significant threat to human life and safety or to property?**

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Based on specialists' review, the East Pryor ACEC meets the following relevance and importance criteria:

- Native American religious values meet Relevance Criteria 1 and Importance Criteria 3
- The cave ecosystems are considered fragile and meet Relevance Criteria 3 and Relevance Criteria 4 and Importance Criteria 3, although cave formations in limestone formations are not rare or unique.
- Sensitive species: the Townsends big-eared bat is considered extremely vulnerable to human disturbance and will abandon roosts and young if disturbed and is a former candidate species. The spotted bat is the least understood bat in North America. Fringed myotis and pallid bat are common throughout the western United States. Peregrine falcon is no longer on the T&E list, however, it is still managed as a special status species. Sage-grouse is uncommon on the East Pryors. Western spotted skunk has very little information collected or studied about the species. Yellowstone cutthroat trout is susceptible to hybridization with non-native trout. The species meet Relevance Criteria 2 and Importance Criteria 3.
- The vertebrate fossil area Crooked Creek NNL meets the Relevance Criteria 3 and 4 and the Importance Criteria 3.
- Sensitive Plants - Lesica's bladderpod is the only sensitive species found exclusively within the East Pryor ACEC and meets Relevance Criteria 3 and Importance Criteria 2. The other sensitive plant species have limited distribution locally or regionally.
- The Demijohn Flat NR District provides locally and regionally significant historical values, and meets Relevance Criteria 1 and Importance Criteria 1 and 2.

The East Pryor ACEC is designated for wild horses, wildlife, historical/cultural and paleontological resources. The Relevance Criterion for East Pryor ACEC was identified as meeting 1, 2, and 3; and Importance Criteria 2 and 3. Much of the East Pryor ACEC boundary overlaps three Wilderness Study Areas (WSAs): Pryor Mountain, Burnt Timber and Bighorn Tack-On WSAs. The management within the WSAs affords protection for the resource values present within the ACEC. Therefore, it is the specialist's recommendation to retain only those BLM public lands of the existing East Pryor ACEC that fall outside the WSAs to eliminate the overlapping designations. It is the specialists' recommendation to also include expanding the East Pryor ACEC to the west to include all of Demijohn Flat National Register District.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

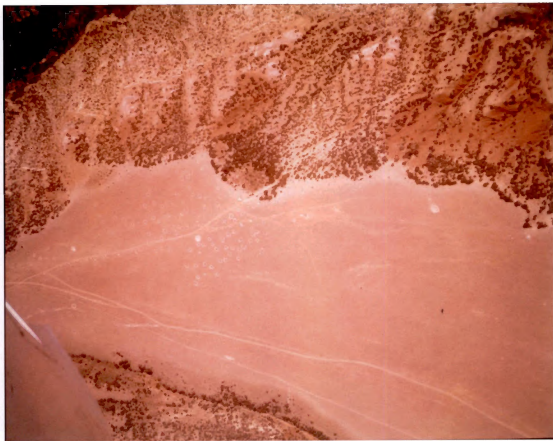
Concurred by Field Manager

/s/ James M. Sparks

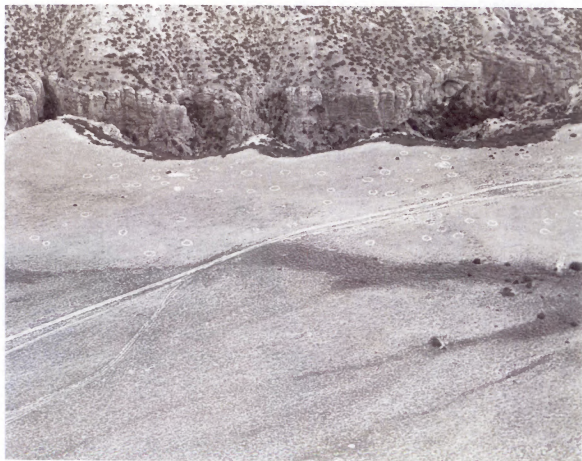
Signature

9/30/2009

Date



DemiJohn Flat aerial view 1



DemiJohn Flat aerial view 2

ACEC NOMINATION EVALUATION

NAME: Four Dances Natural Area ACEC

LOCATION:

SIZE: 784 acres

NOMINATED BY: BLM

RATIONALE: significant historic, cultural or scenic values, peregrine falcon nesting habitat, and for the "natural hazards" of the cliffs

EVALUATED BY: Carolyn Sherve-Bybee, L. Hardy, J. Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

When the BLM acquired the area now known as the Four Dances Natural Area/ACEC in 1998, the Yellowstone River Parks Association nominated the area as an ACEC. At that time the area was known locally as Sacrifice Cliff.

Three recorded sites are located within the Four Dances Natural Area ACEC: 24YL1535, 24YL1536, 24YL1537. 24YL1535 is a lithic scatter, 24YL1536 is a petroglyph site and 24YL1537 is also a petroglyph site. Both 24YL1536 and 24YL1537 are considered to be eligible to the National Register. There are two known unrecorded sites located within the Four Dances Natural Area ACEC, the Crow vision quest site and the Will James cabin. The vision quest site is considered a sacred site by the Crow and although it has not been evaluated for National Register eligibility, it should be considered eligible. The Will James cabin also has not been recorded and evaluated for National Register eligibility.

Historically, the Crow tribe used this area for vision questing – mostly due to the view from the location of the vision quest site (four mountain ranges can be seen). In 2008, the Crow held a Men's Health Ceremony at the Four Dances Natural Area/ACEC. As part of the ceremony, prayers were said at the vision quest site. The Crow do hold the area around the vision quest site as being sacred.

Will James (1892-1942) is a well known character (artist, writer, cowboy, etc.) of the American West. His use of the cabin is well known locally.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

Peregrine falcons nest on the cliffs at the Four Dances Natural Area / ACEC. Peregrine Falcons were removed from the U.S. Endangered Species list in August 1999. The peregrine falcon is currently protected by the Migratory Bird Treaty Act. The peregrine falcon is a protected non-game species for which it is illegal to collect, harm, or otherwise remove from its natural habitat.

3. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

The cliffs at the Four Dances Natural Area/ACEC are considered to be natural hazards (dangerous cliffs). Four Dances is bordered to the west by these cliffs which rise 200-500 feet above the Yellowstone River.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

The Four Dances Natural Area / ACEC has more than locally significant qualities which give it special worth, consequence, meaning, and distinctiveness compared to other resources. It is an undeveloped 765 acres immediately adjacent to the city of Billings. It is open to the public during the daylight hours for hiking.

The location of Four Dances Natural Area ACEC marks the downstream end of the Coulson Bottom plain. The high sheer sandstone cliffs that form the western edges of Four Dances Natural Area ACEC are also a notable landmark in the Yellowstone Valley. Numerous references to the area exist in both Crow and Hidatsa oral literature.

The aboriginal Crow name for the cliffs is "Annishishoopash", translated as "Place of Four Dances". The cliff is traditionally recognized as a fasting site used by Four Dances, a prominent Crow warrior in the 1830s, during the heyday of the Rocky Mountain fur trade and the intertribal Plains wars. Four Dances took his name from the vision he received while fasting at this place. Four Dances' name refers to the dancers who appeared to him in four different places during his vision. Four Dances went from his fasting place to achieve a great Crow victory over the Lakota. Crows visited Four Dances' fasting place until about the turn of the century. Will James had a cabin which is located within the Four Dances Natural Area ACEC.

The majority of the property is a plateau 200-500 feet above the Yellowstone River, which command views of many important traditional Crow sites and offers great potential for interpretation of many historical and aboriginal sites. The lower end of Coulson Bottoms was favored for Crow camps in the eighteenth and nineteenth centuries. Major fords crossing the Yellowstone and an important pass to the uplands north of the valley were both located here. The pass to the north was documented by Lieutenant James Bradley in 1876, when he passed through with Crow scouts on the way to discover the defeated Custer troops at Little Bighorn.

In the twentieth century, internationally known cowboy artist and author, Will James periodically worked on the Snook Ranch which included the Four Dances property. Will James used a small cabin overlooking the Yellowstone Valley as a retreat. This cabin remains intact on the Four Dances Natural Area ACEC and appears much as it did in James' time. James was instrumental in perpetuating the myth of the American West and the image of the cowboy as the quintessential American character. The best known of James' works includes Smoky the Cowhorse (1926). Smoky the Cowhorse won the Newbery Medal for children's literature in 1927 and the Lewis Carroll Shelf Award in 1965.

The Four Dances Natural Area ACEC is directly across the river from Coulson City, a late nineteenth century steamboat landing and the precursor to Billings. Coulson City was built just across the river from what was then the Crow Reservation (the reservation boundary was adjusted to the east in 1891). A segment of the historic Meeteetse to Billings stage and freight road also appears to have crossed the northeast corner of the Four Dances Natural Area ACEC.

The cliffs on the Four Dances site were also noted by William Clark when he floated past in 1806. His manuscript maps refer to them as "Yellow Cliffs". A few days later Sergeant Pryor and his party crossed the Yellowstone with the expedition's horse herd just below the cliffs.

2. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

The undeveloped nature of this location so close to the city of Billings makes it vulnerable to adverse change.

3. **Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?**

The Four Dances Natural Area/ACEC has qualities which warrant highlighting in order to satisfy management concerns about public safety. Those concerns are with regards to the cliffs. Currently the BLM has some management prescriptions for the ACEC which prohibit rock climbing and hang gliding from the cliffs.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the recommendation of the specialist to retain the Four Dances Natural Area ACEC. It meets relevance criteria 1, 2, and 3 and importance criteria 1, 2, and 3.

Approval by Associate Field Manager

/s/ Craig R. Drake

9/30/2009

Signature

Date

Concurred by Field Manager

/s/ James M. Sparks

9/30/2009

Signature

Date



The Four Dances Natural Area/ACEC



Crow Men's Health Ceremony at Four Dances Natural Area ACEC June 2008

ACEC NOMINATION EVALUATION

NAME: Grove Creek ACEC

LOCATION: west half of Grove Creek area

SIZE: 0 Acres (Alt A), 8,251 Acres (Alt B), 9,445 Acres (Alt C), 8,251 acres (Alt D)

NOMINATED BY: BLM and Public

RATIONALE: significant archaeological and traditional cultural values and special status plants

EVALUATED BY: Carolyn Sherve-Bybee, Nora Taylor, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

- 1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

The Gold Creek complex consists of four sites initially recorded as discrete sites or feature clusters, (24CB0622, 25CB0148, 24CB0625, and 24CB1190) and have since been determined to be two very large "site complexes". The cluster of recorded sites comprising the Ruby Creek Complex includes 24CB0148, 24CB0149, 24CB0622, 24CB1193, 24CB1194, and 24CB1839. Together, these sites contain over 300 individual tipi ring features and extend over more than a square mile. Roughly 2/3 of this complex is located on private land within the Grove Creek development while 1/3 is located on BLM managed public lands.

24CB0622: This site contains 170 stone features including 157 discreet tipi rings. The site is eligible for nomination to the National Register of Historic Places under criterion D. This site was originally recorded in 1973. The original recordation did not address the extent of the site, but did state that informant's testimony indicated that the tipi rings extended across much of the surrounding benches. Site 24CB0148 (37 rings) and site 24CB0149 (16 rings) are essentially coincident with site 24CB0625 and should have been re-recorded as part of that site. The Ruby Creek complex should also include sites 24CB1193, 24CB1194 and 24CB1839. The Ruby Creek complex is eligible to the National Register under criterion A (national events) in that it was the locality of a series of complex behavioral events that occurred for over 4,000 years based on the projectile point typology and recovered radiocarbon dates. It is also eligible to the National Register under criterion C in that design and construction of the individual features represents a style of construction. Also testing of several features demonstrated that the area still can yield information.

The Gold Creek Complex is of similar nature to that of the Ruby Creek Complex and indeed may be extant as a single large site complex extending roughly three miles north/south and about one mile east/west. 24CB0625 was originally recorded in 1973 as a cluster of a half dozen tipi rings on a low ridge overlooking Gold Creek. In 1989, site 24CB1190 was recorded which contained 69 discreet ring features. These two sites are contiguous and are probably part of the same occupation.

The Crow tribe believes these site complexes to be a Traditional Cultural Property, although it has not been recorded as such.

Members of the Crow tribe have identified the area as being of religious significance.

- 2. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).**

*The western part of the Gold Creek complex contains populations of Beartooth large-flowered goldenweed (*Haplopappus carthamoides* var. *subsquarrosa*). This is a regionally endemic species restricted to the eastern*

front of the Beartooth Mountains and the foothills of the Pryor Mountains. *Haplopappus carthamoides* is known from only eight locations in Montana. The area is adjacent to recovery areas for the Grizzly Bear and Gray Wolf.

II. II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

The Gold Creek complex has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern. The projectile point typology and recovered radiocarbon dates indicate that this area has been occupied (the tipi rings) for over 4000 years.

While this area has not yet been designated a Traditional Cultural Property, the area contains Native American burials and sacred sites.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

The Gold Creek Complex has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.

The private land surrounding the BLM managed public lands in the Grove Creek area have been subdivided and the parcels are being sold. ROW applications have been submitted to access some of these parcels. If ROWs are approved, road construction could adversely damage many of the sites. The Crow tribe has requested that the sites be avoided by road construction. Feature density within both complexes if of high enough density that avoidance is not a practical option. In the case of the Ruby Creek road, avoidance would mean substantial re-routing of the road. In Grove Creek, no study has been done to avoid the sites in question and any potential re-route would most likely still impact other loci within the potential TCP district.

Improved and increased roads in this area will also lead to vandalism of the sites in the Grove Creek Complex (tipi rings, burials, sacred sites, etc.). In 1990, during the construction of a road and well pad it, five individual features within site 24CB0622 were vandalized by looters. The BLM in consultation with the SHPO determined that this vandalism was a direct result of increased access from the newly constructed road.

Beartooth large-flowered goldenweed is a regionally endemic species restricted to the eastern front of the Beartooth Mountains and the foothills of the Pryor Mountains.

Development of the area (oil and gas development, ROWs, etc.) would bring more people into the area. As the Grove Creek area is of religious significance to the Crow, the development or having more people in this area would hinder/restrict Crow religious practices in the area.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?
5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

The Grove Creek Complex meets both the relevance criteria (1 & 2) as well as the importance criteria (1 & 2). As the BLM's current management cannot protect this area, it is recommended that this area be considered as an ACEC.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date

ACEC NOMINATION EVALUATION

NAME: Meeteetse Spires ACEC

LOCATION: T. 8 S., R. 20 E

SIZE: 965 acres (Alt A), 1,523 acres (Alt B), 2,173 (Alt. C), 1,523 acres (Alt D)

NOMINATED BY: BLM

RATIONALE: Unique vegetation and scenic values and rare plant protection.

EVALUATED BY: Nora Taylor, Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

This area contains significant scenic value because of the spire remnants of the upturned Madison limestone.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

The spire rock formations are used by peregrine falcons for nesting. Peregrine falcons are a Bureau sensitive species.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).

*This area contains populations of the rare plants, shoshonea (*Shoshonea pulvinata*) and Beartooth large-flowered goldenweed (*Haplopappus carthamoides* var. *subsquarrosa*). The area is adjacent to recovery areas for the Grizzly bear and Gray wolf.*

The terrain slopes steeply, dropping from 7,200 feet to 5,600 feet. The spires are formed by a tilted layer of sedimentary rocks at the edge of the Beartooth Uplift and are remnants of upturned Madison limestone.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

There are natural hazards due to the dangerous cliffs in the ACEC.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

*This area is considered significant for the rare plant species *Shoshonea pulvinata* which is known in three locations in Montana and only 12 world-wide and for *Haplopappus carthamoides* which is known from only eight locations in Montana.*

*Both species are regional endemics. *Shoshonea* is known only from the Absaroka and Owl Creek Mountains of northwest Wyoming and adjacent Montana. Beartooth large-flowered goldenweed is restricted to the eastern front of the Beartooth Mountains and the foothills of the Pryor Mountains.*

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

The Meeteetse Spires area is of religious significance to the Crow Tribe.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?
5. Poses a significant threat to human life and safety or to property?

The steep cliffs pose a hazard to the recreating public.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is recommended that the existing Meeteetse Spires ACEC be retained and upon completion of the proposed LWCF land acquisition, the ACEC boundary be expanded to include the acquired land. This would add 558 acres and one shoshonea site to the ACEC. The 650 acres to the east of the boundary of the existing ACEC only contains one Beartooth large-flowered goldenweed site so this area is not recommended to be included in the ACEC. The entire Meeteetse Spires area is of religious significance to the Crow Tribe.

Approval by Associate Field Manager

/s/ Craig R. Drake

9/30/2009

Signature

Date

Concurred by Field Manager

/s/ James M. Sparks

9/30/2009

Signature

Date



560 acre acquisition area



560 acre acquisition area

ACEC NOMINATION EVALUATION

NAME: Petroglyph Canyon ACEC

LOCATION: [REDACTED]

SIZE: 240 acres

NOMINATED BY: BLM

RATIONALE: unique cultural values

EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

IV. **RELEVANCE** (must contain one or more of the following):

1. **A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

Petroglyph Canyon ACEC, known by Smithsonian trinomial number 24CB0601, is a Late Prehistoric rock art site listed on the National Register of Historic Places (11/20/1975). The complex rock art site consists of 38 panels of petroglyphs. Anthropomorphic figures dominate. The majority of the petroglyphs were made by pecking through the dark varnish to expose the lighter colored interior stone. This practice of removing all the interior of each petroglyph, as opposed to simply pecking away an outline of each figure, is known as the *en toto* pecked style. The rock art in Petroglyph Canyon dates from 800-1000 years ago (Loendorf 1984).

This style is dominated by depictions of humans shown in full view, side-by-side, in rows of figures. Both males and females are shown.

Quadrupedal animals, including what are likely representations of bison, sheep, dogs/coyotes, and bears are found in the *en toto* style, as are snakes and possibly birds. Abstract elements include net patterns and pecked dots, sometimes in rows and other times, just a single dot.

Petroglyphs in the *en toto* style were thought to be part of a continuous tradition that lasted through at least four centuries.

The numerical ages for two petroglyphs at Petroglyph Canyon were determined through AMS dating while seen more petroglyphs were dated through the CR curve. All dates fall within the relative estimate for the *en toto* tradition.

Petroglyph Canyon lies in the Cretaceous Cloverly formation. The Cloverly strata include sandstones of moderate hardness and Petroglyph Canyon has been cut in the sandstone mostly through water erosion. The upper end of the canyon is a jumbled array of boulders of varying sizes and shapes. The boulders decrease along the actual canyon bottom toward its mouth and in the lower third of the canyon the sandstone bedrock is exposed on the floor. Six to eight circular eroded holes or pockets occur in the bedrock; some of these are nearly two meters in diameter and more than a meter in depth. These holes catch runoff water and retain water through mid-summer in normal years.

The canyon is oriented northwest to southeast over the length of 1.5 kilometers. The maximum height of the canyon walls is 20 meters along the southwestern wall near the mouth. The northeastern side is not as steep and is dissected by drainages. Along this side near the canyon mouth there are numerous large boulders and erosional remnants which are often separated by

narrow crevices. Petroglyphs are found on the faces of these boulders as well as on the more sheer canyon walls.

2. **A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**
3. **A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).**
4. **Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.**

II. **IMPORTANCE** (characterized by one or more of the following):

1. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

Petroglyph Canyon ACEC (24CB0601) contains more than locally significant qualities which give it special worth, consequence, meaning, or distinctiveness, especially compared to similar resources.

The rock art in Petroglyph Canyon dates from 800-1000 years ago (Loendorf 1984) and represents the northernmost extension of a rock art style not commonly found in Montana.

This *en toto* style is dominated by depictions of humans shown in full view, side-by-side, in rows of figures. Both males and females are shown in Petroglyph Canyon.

Quadrapped animals, including what are likely representations of bison, sheep, dogs/coyotes, and bears are found in the *en toto* style, as are snakes and possibly birds. Abstract elements include net patterns and pecked dots, sometimes in rows and other times, just a single dot.

Petroglyphs in the *en toto* style were thought to be part of a continuous tradition that lasted through at least four centuries.

The numerical ages for two petroglyphs at Petroglyph Canyon were determined through AMS dating while seven more petroglyphs were dated through the CR curve. All dates fall within the relative estimate for the *en toto* tradition. The average age of the four dated anthropomorphic figures is 1278 BP, which is within the range of the oldest C14 date from the site. A thunderbird figure was dated at 962 ± 78 BP. Three petroglyphs were older than the relative estimates for the site. One, a bison figure, dated at 1470 ± 75 BP, two other animal forms include an upside down quadrapped and another correctly oriented quadrapped, but the latter is so heavily varnished it is difficult to see. These figures dated at 2454 ± 223 BP and 2613 ± 309 BP respectively and may represent an older rock art tradition.

2. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

Petroglyph Canyon ACEC (24CB0601) has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change. It possesses information that is regionally significant and fragile. The area is vulnerable to natural erosion and vandalism.

Petroglyph Canyon is seeing an increasing amount of visitation each year. Site stewards, part of the Montana Site Steward Program, have been monitoring the site since 2010. No new incidences of vandalism have occurred at the site, although unauthorized roads are now visible from the southern end of Petroglyph Canyon (one road begins on the private land to the west, the other begins on BLM managed public land in Wyoming).

3. **Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?**
4. **Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?**
5. **Poses a significant threat to human life and safety or to property?**

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialists's recommendation that Petroglyph Canyon ACEC be retained. This recommendation is based on the outstanding cultural and natural values and recognizing that preservation of those values is in the interest of the public.

Petroglyph Canyon ACEC meets Relevance criterion 1 and Importance criteria 1 and 2.

Petroglyph Canyon ACEC is well known regionally. It contains the northernmost extension of a rock art style (*en toto*) that is not commonly found in Montana. The site is listed on the National Register of Historic Places. It is considered significant for its information potential on the prehistory of Native American in the plains environment.

Approval by Associate Field Manager

/s/ Craig R. Drake
Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks
Signature

9/30/2009

Date







ACEC NOMINATION EVALUATION

NAME: Pompeys Pillar ACEC

LOCATION: 30 miles east of Billings, MT

SIZE: 423 acres

NOMINATED BY: RMP amendment, 1996

RATIONALE: Protect historic and cultural values and wildlife/fisheries

EVALUATED BY: Dick Kodeski, Carolyn Sherve-Bybee, Jay Parks, Ernie McKenzie

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

Pompeys Pillar has served as an important geological feature, landmark and register of travelers for hundreds of years. Hundreds of markings, petro glyphs, and inscriptions left by visitors have transformed this geologic phenomenon into a living journal of the American West. One of the Pillar's most notable visitors, Captain William Clark of the Lewis and Clark Expedition, arrived at Pompeys Pillar on July 25, 1806, on his return trip from the Pacific coast. Clark's journal recorded his stop at this "remarkable rock" with its "extensive view in every direction." He described an idyllic landscape of grassy plains, snow-capped mountains, and cliffs abutting the wandering river. Clark marked his presence by engraving his name and the date of his visit on the outcrop. In his journal, Clark named the rock Pompey's Tower (Pompey being Clark's nickname for Sacagawea's young son, Jean Baptiste Charbonneau). Ethnographic and archaeological evidence indicates that the Pillar was a place of ritual and religious activity. Hundreds of petroglyphs on the face of the rock, noted by Clark in his journal, reflect the importance of the monument to early peoples. The Crow people, the dominant residents of the region when Clark passed through, call the pillar the "Mountain Lions Lodge" in their language, and it figures prominently in Crow oral history. Pompeys Pillar also includes the markings and signature of a host of characters from the pioneer past, including fur trappers, Yellowstone River steamboat men, frontier army troops, railroad workers, missionaries, and early settlers. In 1873, Lieutenant Colonel George Armstrong Custer and his men camped at its base, where they came under attack from Sioux snipers. Crow ethnographies include numerous references to the Pillar as a landmark and as an area for religious activities such as fasting. Evidence of long-term use of the Pillar is ubiquitous in the vicinity. The burned rock, flaked stone and bone debris left from probably thousands of years of small, short-term occupations are visible in the flats surrounding the landform.

Pompeys Pillar has several designations associated with the site to protect its significant values, including most recently, status as a National Monument. Through Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), approximately 51 acres at Pompeys Pillar was designated a national monument in January of 2001, for the purpose of protecting the historic and cultural objects described above.

In 1965, Pompeys Pillar was officially designated a National Historic Landmark (NHL) primarily because of the significance of William Clark's signature panel. The boundaries designated include 6 acres above the 2,890 foot contour level. In 1983, the same six acre site was listed on the National Register of Historic Places as a significant cultural property.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

The Pompeys Pillar property serves as important habitat for significant fish and wildlife resources. The community of wildlife species present on the property are typical of the riverine environment of the middle Yellowstone Valley in the early nineteenth century. Bald eagles have been observed traveling in the Pompeys Pillar area. During spring migration, up to 100 bald eagles have been observed in the trees and over the river about 1.5 miles downstream from the existing bridge (BRW, biological assessment report, February 1999). Pompeys Pillar has a

rich diversity of song birds (meadowlark, black-capped chick-a-dee, and mountain blue bird), upland game bird species (sharp-tail grouse, pheasant) and raptors (kestrel; red-tailed, sharp-shinned, Cooper's, Swainson's, rough-legged and marsh hawks; and prairie falcon). The golden eagle, mallard, Canada geese, snow geese, red-breasted merganser, and common golden-eye have been observed in the corridor. The Yellowstone River corridor, adjacent to the Pillar, may be suitable habitat for the Pallid Sturgeon for potential future recovery efforts.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

Pompeys Pillar is a massive sandstone outcrop that rises approximately 127 feet on the banks of the Yellowstone River east of Billings. The Monument's premier location at a natural ford in the Yellowstone River, and its geologic distinction as the only major sandstone formation in the area, have made Pompeys Pillar a celebrated landmark and outstanding observation point for more than eleven thousand years of human occupation. The Pompeys Pillar property harbors a functioning ecosystem similar to that observed by the Clark party in the early nineteenth century. Many wildlife species typical of the early 1800s, have been observed in the area. The Pillar lies at a well-known ford of the Yellowstone. On the north side of the river, opposite the Pillar, the high sandstone rims are broken to allow Pompeys Pillar Creek entry into the Yellowstone. To the south is the mouth of the north-draining Fly Creek Valley. The ford and these natural passages must have been used for millennia by bison herds and hunters to access the Bull Mountains and Musselshell Valley and lands beyond to the north, and the Big Horn and Little Big Horn Valleys and the country to the south. The position of Pompeys Pillar at this strategic crossroads along north-south and east-west travel corridors virtually guaranteed it an important role in the prehistory and history of the middle Yellowstone Valley.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

Pompeys Pillar meets Importance Criteria 1. Pompeys Pillar has resources and qualities that are both locally and nationally significant. William Clark's signature is the only on-site physical evidence known for the Lewis and Clark Expedition. The hundreds of markings, petroglyphs, and inscriptions are evidence of the regional significance of the site. To further support the importance of the site, 51 acres was reserved and set-aside as Pompeys Pillar National Monument to protect the values and resources.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

Pompeys Pillar meets Importance Criteria 2. The signatures and rock art are extremely fragile and are especially vulnerable to erosion. Comparison of the signature panels today with photographs made about 30 years ago show significant deterioration. Modern graffiti (vandalism) is the secondary threat to the historic and prehistoric motifs.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

Pompeys Pillar meets Importance Criteria 3. The area warrants protection in order to preserve and protect the significant resource values, as recognized through the National Monument proclamation. With the addition of visitor facilities to interpret the cultural and historical significance of the area, the site has become an important destination for visitors from across the region and country.

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Pompeys Pillar meets both relevance (criteria 1, 2, and 3) and importance (criteria 1, 2, and 3). Since the original 1996 Pompeys Pillar ACEC Amendment, 51 acres within the ACEC have been designated a National Monument. In addition, a significant investment of resources were dedicated to the site to interpretive the historical, cultural and Native American values of the region. The site continues to draw visitors from across the country and provides local and regional schools interpretive opportunities as well as an opportunity to experience an ecosystem reminiscent of an 1806 environment.

Recommend: retaining the 432 acre ACEC, inclusive of the NM and NHL designations (and National Register Landmark). BLM management objectives should address the long-term conservation of the biological and heritage resources and provide visitor service/interpretive opportunities.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date

ACEC NOMINATION EVALUATION

NAME: Pryor Foothills Research Natural Area/ACEC

LOCATION: T. 9 S., R. 27 E.

SIZE: 0 acres (Alt A), 958 acres (Alt B), 7,401 acres (Alt C), 2,606 (Alt D)

NOMINATED BY: Public

RATIONALE: Area has a large concentration of Bureau sensitive plant species and rare plant communities.
The Gyp Springs contains high historic and cultural values

EVALUATED BY: Nora Taylor, Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

- 1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

The Gyp Springs area (located in the south portion of the proposed Pryor Foothills RNA) contains significant historic and cultural values.

Historic Values: In 1864, Jim Bridger, famed early trapper and mountain man, and later guide for the Captain William Reynolds Exploration military and emigrant parties, blazed what would become known as Bridger Cutoff, an alternative route for a section of the Bozeman Trail emigrant route. The Bozeman Trail extended from Fort Casper, Wyoming to Virginia City through the territories of the Sioux and Northern Cheyenne and Northern Arapaho, who, at the time were hostile. The Bridger Cutoff extended west from Fort Casper, where it left the Bozeman Trail passing through relatively friendly Shoshone and Crow territory and then north to Edgar, Montana, where it then connected again with the Bozeman Trail. The Bridger Cutoff became the main emigrant trail through the region, particularly after the section of the Bozeman Trail through the hostile territory was abandoned in 1868. The Bridger Cutoff in some sections was used through the 1920s. The present day Gyp Springs Road (still in-use) follows generally along the Bridger Cutoff through the Gyp Springs area. The trail passes directly through and continues west of Gyp Springs. The spring was likely used historically as a watering and camp site and was an integral part of Bridger Cutoff of the Bozeman Trail. The trail was designated as site number 24CB1242 within the Montana portion in 1991 (Taylor 1991) beginning below Gyp Springs following Gyp Springs Creek north from the border with Wyoming and continuing along the creek, through the springs, and then continuing to the northwest. The Bridger Cutoff was determined eligible for inclusion to the NRHP on a state level. The trail has at least regional significance because it is associated with events that have made a significant contribution to the broad pattern of our history and it is associated with the lives of persons significant in our past.

Cultural Values: Gyp Springs and the immediate vicinity retain archaeological evidence of both historic and prehistoric use and is documented as site 24CB604. Confirmed substantial surface and subsurface cultural remains indicate possible long, intensive and continued use of the springs in prehistoric through historic periods. The prehistoric component is comprised of artifact scatter and intact subsurface deposits indicative of a habitation site. Diagnostic materials indicate an occupation or occupations as early as late Paleolithic/archaic period up to late prehistoric period. A Recreation Site Inventory and Evaluation Form completed by BLM before 1969 indicates a consideration of Gyp Springs and "Tipi Rings Area nearby" as contributing to the recreational attraction for the Crooked Creek Program Area. The "Tipi Rings Area" was recorded as 24CB604 in 1967. The combination of the historic and prehistoric values makes the cultural values outstandingly remarkable.

- 2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**

The area contains sites of seven bureau sensitive plant species.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

The area contains the northern extent of the Wyoming Basins ecoregion.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

This area is the northern extent of the Wyoming Basins ecoregion. The area contains seven bureau sensitive plant species. Most of the Montana sites of the many of the species are found in this area.

The Gyp Springs locale contains more than locally significant qualities that give it special worth and distinctiveness or cause for concern, especially compared to any similar resource. The entire Gyp Springs site is eligible for the National Register for cultural and historic values, this is due to the prehistoric and historic use of the spring site.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

Impacts of climate change would be observed first where plants are at the edge of their range. Changing climates would allow plants to modify their ranges making peripheral populations important for range expansion.

The Gyp Springs locale has qualities that make it fragile, sensitive, threatened or vulnerable to adverse change. The historic resources (historic roads/trails) are sensitive and vulnerable to change as the roads (or road traces) can be impacted unintentional OHV use. The cultural resources are vulnerable to collecting and vandalism.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?
5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

I recommend designating 2,606 acres of the Pryor Mountain foothills as a Research Natural Area/ACEC for the management and protection of the rare plant values of this area. This area provides a unique area for research and education about rare plants and the impact of climate change to ecoregions at the edge of their distribution. The cultural resources located in the Gyp Springs area are an additional important value to the proposed RNA.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date

ACEC NOMINATION EVALUATION

NAME: Stark Site ACEC

LOCATION:

SIZE: 799 acres

NOMINATED BY: BLM

RATIONALE: protect unique cultural values

EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

The Stark Site complex (a series of 27 sites) has the potential to yield significant information on Native American societies of the Northwestern Plains from the Plains Archaic period to the early Historic period.

The complex of sites in the area includes evidence of the repeated impoundment, slaughter, and processing of bison over a long period of time. Included are seven separate bison bone deposits, each representing a kill and processing episode; a number of open occupation sites with artifacts, hearth features, and buried deposits; and a small rockshelter with rock art and with the potential for buried occupation deposits. At least two human burials have been removed from that area.

When originally recorded in 1972, one of the bison kill and processing sites yielded pottery shards similar to types found in late prehistoric contexts on the Missouri River in North Dakota. Limited excavation was subsequently conducted by Montana State University, Bozeman. The presence of this rare (for Central Montana) and exotic artifact type suggests that these peoples may have been among the earliest Crow to move into the area after splitting off from North Dakota agricultural groups.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

The Stark Site complex possesses information that is regionally significant. The presence of this rare (for Central Montana) and exotic artifact type suggests that these peoples may have been among the earliest Crow to move into the area after splitting off from North Dakota agricultural groups. The timing and other factors critical to an understanding of the initial movement of the Crow people to the Montana-Wyoming area is problematical and has generated considerable research interest. The opportunity to investigate the activities of late prehistoric Plains nomad societies at a time when they were initially entering the area is unusual and may be quite significant, not only for an understanding of Crow and Hidatsa ethnohistory, but of understanding the ethnohistory of numerous other groups who entered the North American Plains during the late prehistoric and early historic time.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

The Stark Site complex has qualities or circumstances that make it fragile and vulnerable. The area is well known to artifact collectors and is easily accessible by a county road. The reports for sites in the complex include several references to unauthorized digging in site deposits. With repeated collection and vandalism, this valuable and interesting group of sites could be stripped of diagnostic artifacts and otherwise rendered useless for scientific and educational purposes in the future.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialist's recommendation that the Stark Site be retained as an ACEC. The Stark Site meets relevance criterion 1 as a significant cultural property. It also meets importance criteria 1 and 2 as it possesses information that is regionally significant and the sites are vulnerable and fragile. The area is approximately 799 public surface acres in

size and is considered eligible for nomination to the National Register of Historic Places. Although bison kill and butchering sites on the Northwestern Plains are not uncommon, the Stark Site complex represents the greatest density of such sites known on public land in south-central Montana. The presence of both kill and processing sites dating over a considerable span of time provides the opportunity to compare hunting and related strategies by various groups using the site over differing time periods. The area is considered significant for its potential on the prehistory of Native American societies in the plains environment.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date

ACEC NOMINATION EVALUATION

NAME: Sykes Ridge Rare Plant ACEC

LOCATION: T. 9 S., R. 28 S.

SIZE: 11,600 acres

NOMINATED BY: Public (Peter Lesica)

RATIONALE: Rare Plant Protection

EVALUATED BY: Nora Taylor

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).
2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).
3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).

The proposed ACEC contains six bureau sensitive plants: Lesica's bladderpod, obscure evening-primrose, dwarf mentzelia, Daggett rockcress, Wind River milkvetch, yellow bee plant.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

The Sykes Ridge area has numerous sites of Bureau sensitive species.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

This is an area of high endemism with populations of rare and regionally endemic species and communities.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?
5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Do not designate as an ACEC because this area is already part of the East Pryor ACEC. Under all alternatives for the East Pryor ACEC, adequate protection for the rare plant resources will be included as part of the management actions. The majority of this proposed ACEC is also within the boundaries of the Pryor Mountain and Bighorn Tack-on Wilderness Study areas. The Interim Management Plan for WSAs also provides adequate protection for rare plants.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

9/30/2009

Date

ACEC NOMINATION EVALUATION

NAME: Weatherman Draw ACEC

LOCATION:

SIZE: 4,365 acres (Alt A), 4,986 acres (Alt B), 12,277 acres (Alt C), 12,277 acres (Alt D) NOMINATED BY: BLM and public

RATIONALE: protect unique cultural values

EVALUATED BY: Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

Weatherman Draw contains significant historic, cultural and scenic values.

There has been almost 80 years of work in the Weatherman Draw ACEC. The intriguing thing about this is that the majority of the work was driven towards finding and recording rock art. During the 1960s and 1970s most of the large panels were recorded and Loendorf focused his famous studies on the Valley of the Shields. This seminal work triggered emphasis on the rock art in the area by other archaeologists. The focus on rock art tended to skew the data set towards one aspect of the prehistoric use of the area.

In 2003, it was determined that a systematic inventory of the area was needed. Since 2003 the inventory of the Weatherman Draw and the surrounding area has focused on determining the nature of the cultural landscape. More to the point, it has focused on the settlement and spatial patterns of the area. This research is showing how the people who created the rock art in Weatherman Draw used and lived on the land.

Of the 80 recorded rock art sites within Weatherman Draw, many of these sites contain the distinctive styles of characteristic of Northern Plains aboriginal rock art of the past two millennia. The wide variety of motifs and styles visible on panels present evidence for evolutionary trends within styles or periods, for sequential styles varying through time, and possibly for parallel styles executed contemporaneously for differing functions or by different prehistoric groups. Data available from these sites can address a number of important research questions on the chronology and function of rock art among prehistoric and historic hunting societies and on Plains ethnography. Recent advances in dating techniques and innovations in ethnographic analogy and interpretation of ethnographic records are generating renewed interest in the interpretative potential of rock art studies.

Similarities in motifs among various panels at Weatherman Draw (for example in painted shield design), and similarities in method of execution (such as the technique of smoothing or preparing the surface where shields are subsequently painted; or the use of multiple colors in shield pictographs) argue for some internal relation among the sites. In some cases the motifs or techniques used on Weatherman panels are seldom found elsewhere in the region. The Weatherman Draw sites are relatively densely concentrated on the landscape, and are isolated on all sides by at least several miles of terrain where prehistoric rock art of any kind is rare to absent.

The close association of sites or loci marked by fire-cracked rock, flaked stone, hearths, or other debris suggests that the latter sites may have served, at least in part, as staging areas for the people producing the rock art.

Weatherman Draw is also an area of high religious importance for many Native Americans. The Blackfeet, Comanche, Crow, Eastern Shoshone, Kiowa, Northern Arapaho, Northern Cheyenne, Standing Rock Sioux, Spirit Lake Sioux, Yankton Sioux, Nez Perce, Leech Lake Ojibwa, and the Fort Peck Assiniboine and Sioux are just some of the Native American communities who place high religious significance on this area. The Weatherman Draw area is still being used for religious purposes by many tribes. Each of these groups recognizes that the rock art in the Weatherman Draw area is an indicator that the area has great cultural and spiritual significance to past Native Americans, and therefore it has significance to present day native communities. The tribes have placed more or less emphasis on the continued physical integrity of the rock art panels.

In addition to the rock art and prehistoric habitation sites, the Weatherman Draw ACEC and surrounding area contain historic coal mines (found both in and outside of the ACEC), historic homesteads, evidence of native American (Crow) horse traps/corrals, vision quest and sacred sites (which are still in use) and historic graffiti.

II. IMPORTANCE (characterized by one or more of the following):

1. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

The panels in Weatherman Draw include examples of rock art that is unique on public lands in Montana and as the majority of the rock art in Weatherman Draw consists of pictographs, these are among the most fragile cultural resources the BLM administers in Montana. Investigation of these sites has demonstrated that the Weatherman Draw panels and adjacent cultural deposits are yielding important data relevant to the construction of a chronology of rock art manufactured on the Northwestern Plains

2. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

The threats to the continued existence of rock art in Weatherman Draw are both environmental and cultural. The rock art panels will continue to be susceptible to the slow degradation of the sandstone surfaces on which they were constructed, and to exfoliation, which breaks spalls of sandstone off the rock face, and could after years of moisture buildup, instantly damage or destroy a panel.

The second threat is vandalism, which is present at the sites (24CB408, 24CB630, 24CB1023). The modern damage to the rock art is either by graffiti or by an effort to make the rock art more visible by tracing over the glyphs with chalk or other substances.

As portions of the Weatherman Draw ACEC are considered to be of religious significance to the Crow and other tribes with affinity to the area, the solitude and the viewshed from specific sites are very important to religious practices.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialist's recommendation that the Weatherman Draw ACEC be retained and the ACEC be expanded to include the additional sites found in the area that reflect the use of the land by the people who created the rock art within the existing Weatherman Draw ACEC. This recommendation is based on the outstanding cultural and natural values and recognizing that preservation of those values is in the interest of the public.

The Weatherman Draw ACEC meets relevance criterion 1 and importance criteria 1 and 2.

The Weatherman Draw area is well known regionally as the locus of a remarkable series of prehistoric and historic rock art panels. Several tribes have expressed interest in the Weatherman Draw area, based on the reported archaeological sites and the traditional values their presence implies. The area is also known locally as a rugged, picturesque landscape and the more accessible portions of the Draw are visited regularly by hikers and other recreationists.

Approval by Associate Field Manager

/s/ Craig R. Drake

Signature

9/30/2009

Date

Concurred by Field Manager

/s/ James M. Sparks

Signature

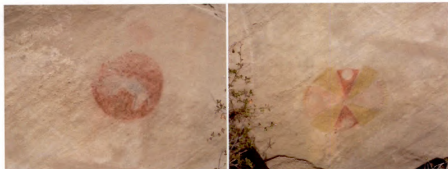
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Date



Vision quest site still in use in the Weatherman Draw ACEC

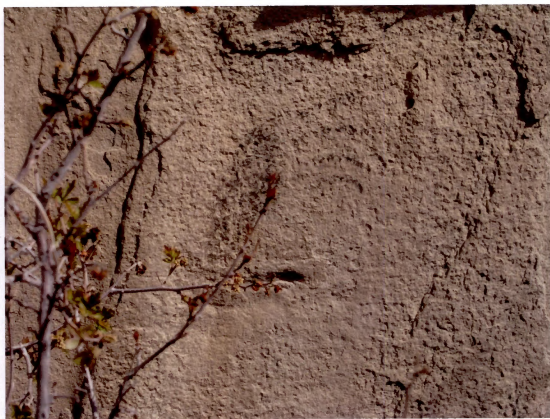
Province Site



Provinse Site



Bear Two-Shield site



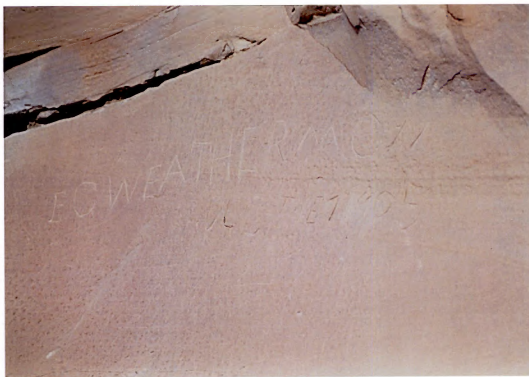
Valley of the Shields



Two Meter Man



E.C. Weathermon



Red Buffalo



Rock art panel located on the 615 acre acquisition



Historic coal

ACEC NOMINATION EVALUATION

NAME: Greater-Sage Grouse Habitat ACEC

LOCATION: portions of Carbon and Musselshell Counties, Montana

SIZE: 154,140 acres

NOMINATED BY: WildEarth Guardians

RATIONALE: Greater-Sage Grouse Habitat

EVALUATED BY: Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. **A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

No significant historic or cultural values are known. Scenic values are moderate, but are similar to those of many other areas in the planning area.

2. **A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**

Yes, the nomination meets the relevance criterion for wildlife resources. The nominated area provides habitat for greater sage-grouse (154,140 acres), a BLM sensitive species, and the area has also been identified as a core area by Montana Fish Wildlife and Parks.

3. **A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).**

Yes, the nomination also meets the criterion for a natural system or process because of the condition of the sagebrush habitat in the nomination area.

4. **Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.**

No natural hazards are known.

II. IMPORTANCE (characterized by one or more of the following):

5. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

No. Although the area contains habitat for greater sage-grouse conservation as noted in the nomination material, the area is not significantly unique or more important than other habitat areas in this region.

Greater sage-grouse are distributed throughout the western United States. The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan are

designated as Management Zone I (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and sub-populations within floristic zones with similar management issues. Within Management Zone I in Montana, Montana Fish, Wildlife and Parks designated core areas (MFWP 2009) and Wyoming Game and Fish has also designated core areas in Wyoming (Wyoming Game and Fish, 2009). In addition, Montana Audubon has also designated five important bird areas for sage-steppe associated birds, including greater sage-grouse, in Montana, most of which are contained within the MFWP core areas.

While all of these areas are considered important to greater sage-grouse conservation, the areas are dispersed throughout the region and are not significantly unique to a specific region or planning unit. In addition, greater sage-grouse habitat in these core areas is owned by a number of different entities and habitat on BLM lands is not distinct from habitat managed by other ownership.

6. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

No, the area is not particularly fragile or sensitive to change as compared to other sites in Montana.

7. **Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?**

Yes, it satisfies national priority concerns.

8. **Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?**

No safety or public welfare concerns are known.

9. **Poses a significant threat to human life and safety or to property?**

No significant threats.

IV. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Approval by Associate Field Manager

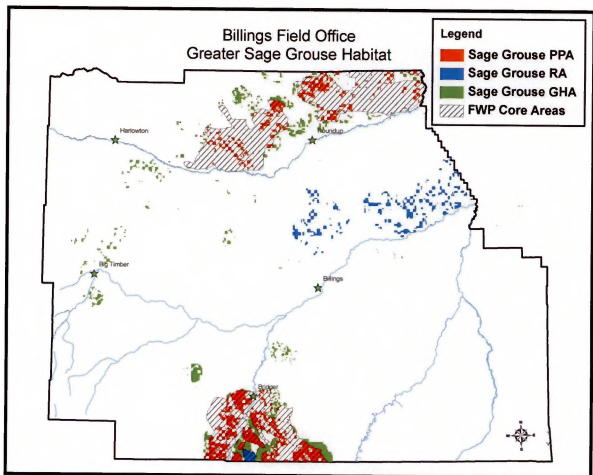
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Concurred by Field Manager

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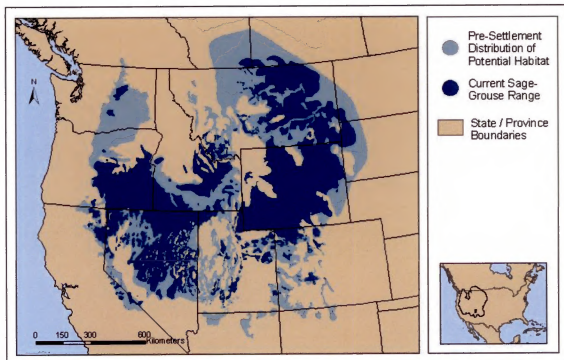


This map shows the Greater Sage-Grouse Protection Priority Areas (PPA), Restoration Areas (RA), and General Habitat Areas (GHA), as well as areas identified by Montana Fish, Wildlife, and Parks as sage-grouse core areas within the Billings Field Office. The areas identified as Sage-Grouse PPA are being proposed as an ACEC.

Background Information:

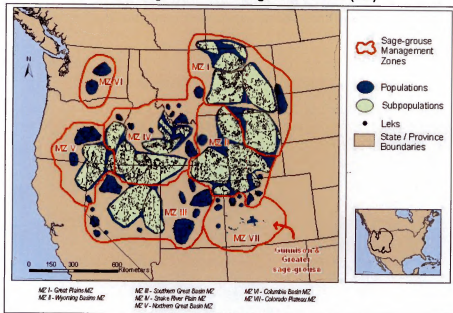
Greater sage-grouse are distributed throughout the western United States (Figure 1). The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan is designated as Management Zone I (Figure 2) (Stiver, et al. 2006). Management zones are delineations of greater sage-grouse populations and sub-populations within floristic zones with similar management issues.

Figure 1
Greater Sage-Grouse Distribution



Source: Stiver, et al. 2006

Figure 2
Greater Sage-Grouse Management Zones (MZ)



Source: Stiver, et al. 2006

Within Management Zone I in Montana, Montana Fish, Wildlife and Parks (MFWP) has designated core areas¹ (Figure 3) (MFWP 2009) and Wyoming Game and Fish has also designated core areas in Wyoming (Figure 4) (Wyoming Game and Fish 2009).

Figure 3
Greater Sage-Grouse Core Areas (Montana)



¹ Sage-grouse core areas are habitats associated with 1) Montana's highest densities of sage-grouse (25% quartile), based on male counts and/or 2) sage-grouse lek complexes and associated habitat important to sage-grouse distribution (MFWP 2009).

ACEC NOMINATION EVALUATION

NAME: Steamboat Butte	LOCATION: T. 6 N., R. 29 E., sections 21 and 28 N½ N½
SIZE: 680 acres	NOMINATED BY: Montana Wilderness Association (Mark Good)
RATIONALE: unique cultural and paleontological values	EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

II. **RELEVANCE** (must contain one or more of the following):

1. **A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

There are no known or recorded paleontological sites within the 680 acres evaluated for ACEC nomination.

Within the 680 acres proposed identified as the Steamboat Butte complex, a total of 10 sites have been recorded. However no documentation or research has been done in this area since 1988.

1968 – 24YL0576
1972 – 24YL0633
1988 – 24YL0774
1987 – 24YL0775, 24YL0776, 24YL0777, 24YL0778, 24YL0779, 24YL0780, and 24YL0781

Included in these sites are two rockshelters, a bison kill site, a cribbed log structure, two occupation sites, wicki-ups, and several petroglyph panels/sites.

A rockshelter was excavated in 1974 by Rocky Mountain College for the BLM Billings Resource Area Office due to the extensive vandalism that had occurred prior to 1974. "The shelter shows evidence of having been extensively pot-hunted sometime in the past. The vandalism seems to have been systematic, since there is an eroding backpile of dirt from screening at the south end of the shelter. Lithic debris on top of the butte includes random scattered flakes as well as concentrations of flakes discarded by pot-hunters. Some of the rock art has been outlined with chalk, and additional carving of initials and dates has been done on the sandstone walls, though not on the rock art panel itself. Many of the petroglyphs and pictographs are very worn and faded" (Heidenreich 1974). See **Figure 1**.

Several wildland fires have occurred in the Steamboat Butte area (Hawk Creek Fire 1998 and 2005, Steamboat Fire 2005). It was reported to the BiFO archaeologist in 2008 that one of the Hawk Creek fires burned up/through several of the wicki-ups in the northern portion of the area identified for the proposed ACEC.

2. **A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**
3. **A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.**

4. **Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.**

II. **IMPORTANCE** (characterized by one or more of the following):

10. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

The rock art, occupation sites, etc. at Steamboat Butte are not more than locally significant. There are several similar habitation sites, consisting of cribbed and conical logged structures in Hoskins Basin National Register District, there are similar several occupation sites and bison kill sites located at the Stark Site ACEC, and the rock art at Steamboat Butte is similar to that at Castle Butte (Figure 2).

11. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

Rock art is known for being fragile and sensitive. However, the rock art at Steamboat Butte is not considered unique or exemplary. Much of the rock art has been chalked and it is very similar to the rock art at Castle Butte ACEC (Figure 3).

12. **Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?**

13. **Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?**

5. **Poses a significant threat to human life and safety or to property?**

V. **RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP**

Steamboat Butte was considered and evaluated for ACEC nomination during the 1998 ACEC amendment. At that time, it either did not meet relevance or importance or it was decided that the area did not need special management as the nomination was not carried forward in the 1998 ACEC amendment. There is no documentation in the 1998 ACEC amendment about the consideration of Steamboat Butte as a proposed ACEC. However, there are notes in the cultural resources files that this area was considered and evaluated for ACEC nomination.

It is the specialist's recommendation that this area not be considered for an ACEC nomination. It was evaluated under one of the Relevance criterion and several sites within the 680 acres are considered to be eligible for the National Register of Historic Places, however, more work is needed to evaluate the significance of the entire area. The Steamboat Butte area was also evaluated under two of the Importance criteria, but did not meet either of the criteria. It is therefore recommended that Steamboat Butte not be considered for an ACEC nomination.

Approval by Associate Field Manager

Signature

Date

Concurred by Field Manager

Signature

Date



Plate 14. TWO ANTHROPOMORPHIC FIGURES.

These figures (and those in Plate 15) are the most complex of the designs on the panel. The figure on the left has a breast plate or pendant on the chest; bands, tattoos, or other circular decorations on the arms; and a necklace or choker. It is difficult to distinguish feet. The left arm has a hand with five fingers. There is an ear on the head, apparently. The figure on the right has what appears to be a braid, animal skin, feather decoration, or long hair hanging from the head. It is wearing a belt or waistband, and at least one foot is shown. The arms are worn away or attenuated. There are other lines on both figures, but they are not identifiable. The two figures once may have held hands or linked arms. About twenty-nine inches tall. Note the unidentifiable form below the couple (see Plate 23).

Figure 1: photo from 1974 report on excavation at Steamboat Butte



Figure 2: 2008 photo



Figure 3: 2008 photo showing chalking of pictographs

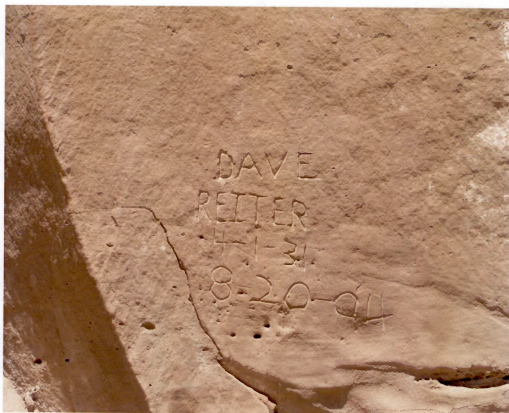


Figure 4: ongoing vandalism on Steamboat Butte

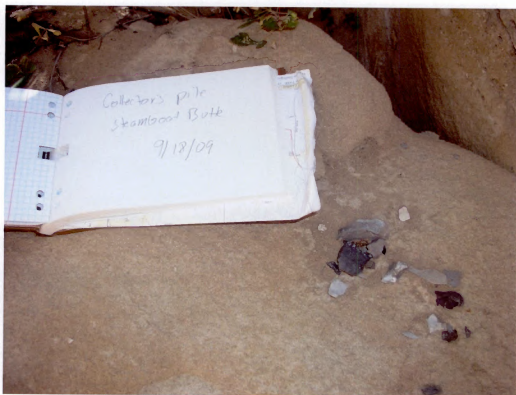


Figure 5: Collector's artifact pile at Steamboat Butte

Appendix F: Cultural Resources

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F. Cultural Resources

F.1 Introduction

Management of cultural resources is directed primarily, but not exclusively, by two laws: the National Historic Preservation Act of 1966, as amended, and the Archaeological Resources Protection Act of 1979. The National Historic Preservation Act requires management and enhancement of significant historic properties and the Archaeological Resources Protection Act requires protection of archaeological resources (sites and objects of 100 years or more in age). The Federal Land Policy and Management Act directs the Bureau of Land Management to manage public lands on the basis of multiple uses and to “protect the quality of historical resources and archaeological values.” This act provides for the periodic inventory of public lands and resources. See Appendix A for full citations of all the laws, regulations and policies guiding cultural and heritage resources.

F.2 Goal

Identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act, Section 103(c), 201(a), and (c); National Historic Preservation Act, Section 110(a); Archaeological Resources Protection Act, Section 14 (a)).

Seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration, or potential conflict with other resource uses (Federal Land Policy and Management Act, Section 103(c), National Historic Preservation Act, Section 106, 110(a)(2)) by ensuring that all authorizations for land use and resource use would comply with the National Historic Preservation Act (NHPA), Section 106.

Maintain viewsheds of important cultural resources whose settings contribute significantly to their scientific, public, traditional, or conservation values.

Provide research opportunities that would contribute to our understanding of the ways humans have used and influenced the landscape.

Manage historic trails to realize their educational, recreational, and scientific values.

Enhance public understanding of, and appreciation for, cultural resources through educational outreach and heritage tourism opportunities.

F.3 Objective

Cultural Resources on BLM-administered land would be protected and maintained in stable condition. Appropriate management actions would be determined after evaluation and allocation of cultural resource use categories through cultural resource project plans.

F.4 Management Direction

The BLM would prioritize inventories to identify sites eligible to the National Register.

The BLM would allocate all cultural resources in the Billings Field Office, whether already recorded or projected to occur on the basis of existing data synthesis (including cultural landscapes), or not projected to occur but later identified through inventory, to the following uses according to their nature and relative preservation value. *These use allocations pertain to cultural resources, not to areas of land.* Each resource would be assigned to a primary use category, but that assignment would not preclude management from other use categories. All sites determined eligible to the National Register of Historic Places would be allocated to and managed for Scientific, Public, Traditional, and/or Conservation for Future Use.

- The six types of use allocations are: Scientific Use, Conservation for Future Use, Traditional Use, Public Use, Experimental Use, and Discharged from Management. See the Cultural category in the glossary for definitions; also see Table F-1 for desired outcomes.
- The focus would be on four of the six cultural resource use allocations: Scientific Use, Public Use, Traditional Use, and Conservation for Future Use. These allocations currently generate the majority of issues within the Billings Field Office and therefore are of high importance.
- The remaining two cultural resource use allocations – Experimental Use and Discharged from Management – would not be emphasized for the following reasons. Experimental Use: Because there are few activities in the Billings Field Office where the destructive nature of impacts on archaeological sites are uncertain or unknown, this allocation would not be emphasized. Discharged from Management: Cultural resource use allocation may occur, especially under Alternative C, but this cultural resource use allocation would not be emphasized because conducting a program driven by this goal would defeat the long-term preservation of these resources.

The BLM would allocate and manage all sites determined not eligible to the National Register of Historic Places and not containing archaeological resources as Discharged from Management Use. All sites determined eligible to the National Register of Historic Places would be allocated and managed to Scientific, Public, and/or Conservation for Future Use. However, if another use becomes evident or proposed after use allocation has occurred, the use allocation may be changed through plan maintenance.

The following thirteen classes of site types found in the Billings Field Office have specific management needs based on each site type. Priorities for inventory, and appropriate management actions have been identified for each site type based on perceived threats and risks.

Table F-1 Cultural Use Allocations and Desired Outcomes

Use Allocation ¹	Desired Outcomes
Scientific Use	Preserved until research potential is realized
Conservation for Future Use	Preserved until conditions for use are met
Traditional Use	Long-term preservation
Public Use	Long-term preservation, on-site interpretation
Experimental Use	Protected until used
Discharged from Management	No use after recordation; not preserved

¹ The majority of the cultural properties in a given geographic area will fall into categories (a) and (f). The less common properties in categories (b) – (e) are likely to be associated with particular settings that can be delineated geographically in the planning process. As the plan is developed, properties in categories b-d will require the most attention to balance their proactive uses with other land and resource uses.

F.4.1 Parameter – Cultural Resource Use Allocation: Rock Art Sites

Aboriginal rock art of the planning area includes petroglyphs (incised or pecked images) and pictographs (painted images). Within the planning area, rock art is found on rock outcrops, cliffs or rockshelters, but is also found on erratic boulders that range in size from a half meter to several meters in diameter. The rock art sites within the planning area include, but are not limited to sites within Weatherman Draw ACEC, Petroglyph Canyon ACEC, Castle Butte ACEC, Paul Duke Site, Steamboat Butte, and Pompeys Pillar National Monument.

F.4.1.1 Management Direction

F.4.1.1.1 Management:

- Any rock art site with evidence of public use would be considered for allocation to Public Use.
- Any rock art site with no evidence of public use would be allocated to Conservation Use and/or Scientific Use and would be considered for Public Use as appropriate.
- All rock art sites eligible to the National Register of Historic Places under Criterion c would be preserved in place and would not be discharged from management.
- Best and most accurate technologies available would be used to photograph and gather locational information at all rock art panels (for example, digital photographs and GPS readings with position error no greater than 20 feet).
- Detailed measured drawings and sub-meter global positioning system locations would be taken of all panels.
- Scientific use would be allowed subject to management plans which minimize physical damage to rock art.

- Condition monitoring of rock art sites would be conducted on at-risk/threatened rock art sites annually.
- Livestock and human contact with rock art panels would be limited through physical barriers (fences or natural barriers such as plantings or boulder placement).
- Emergency stabilization would be allowed if natural or cultural threats are causing loss of integrity to rock art.
- Fire potential would be evaluated and fuels removed where there is threat of loss.
- Use of site stewards for monitoring would be encouraged.
- Informational signs on rock site etiquette and the Archaeological Resources Protection Act of 1979 would be posted at all rock art sites, as appropriate.

F.4.1.1.2 Scientific Use:

- Surface collection of artifacts on non-rock art portions of sites may be permitted under the Archaeological Resources Protection Act of 1979 if there is threat of loss or destruction.
- Excavation would be allowed subject to management plan with appropriate research design.

F.4.1.1.3 Public Use:

- Site-specific recreation management plans/interpretative plans would be developed for all Public Use rock art sites before implementing Cultural Resource Project Plan actions.
- At least one interpretative trail/footpath or kiosk would be considered at each rock art site allocated to Public Use.
- Visitor registers would be installed at all Public Use sites.

F.4.1.1.4 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Those areas containing rock art identified for prescribed or wildland fire use
- Existing designated sites

All National Register eligible rock art sites would be allocated and managed for Scientific, Conservation, Traditional, and/or Public Use, and development of interpretative sites would be implemented as appropriate.

F.4.2 Parameter – Cultural Resource Use Allocations: Rockshelter and Cave Sites

There are numerous rockshelter/cave sites located in the planning area. The large number of rockshelters and caves is likely a factor of the topography of central Montana which contains numerous mountain ranges and outcrops. The rockshelter and cave sites include, but are not limited to Last Canyon Cave.

F.4.2.1 Management Direction

F.4.2.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss. Preserve in place and allow emergency stabilization if natural or cultural threats are causing loss of integrity to sites.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of ongoing Public Use exists.
- Conduct a Class II inventory of areas identified as high potential for aboriginal site occurrence on a priority basis as identified in Cultural Resource Project Plans.
- Use of site stewards for monitoring would be encouraged.

F.4.2.1.2 Scientific Use:

- BLM would evaluate loss of scientific data due to vandalism by estimating the cost of restoration and repair. Partnerships with scientific researchers to assist in evaluating loss of scientific data on vandalized sites would be encouraged.
- Partnerships for excavation/scientific research would be developed to assist the BLM to understand the paleo-environmental record.

F.4.2.1.3 Conservation for Future Use:

- Cost of restoration and repair would be evaluated as soon as vandalism is detected.
- Gates would be installed on caves where there vandalism has occurred or there is threat of resource loss.

F.4.2.1.4 Public Use:

- Visitor registers would be installed and informational brochures would be created based on priorities established in Cultural Resource Project plans.
- Specific recreation management plan/interpretative plan would be developed for all rockshelter cave sites developed for Public Use.

F.4.2.1.5 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans

- Those areas containing rockshelters identified for prescribed or wildland fire use
- Existing designated sites

All National Register eligible sites would be allocated and managed for Scientific, Conservation, Traditional, and Public Use. Development of interpretative sites would be implemented as appropriate.

F.4.3 Parameter – Cultural Resource Use Allocations: Aboriginal Occupation Sites and Structures (prehistoric and protohistoric)

Tipi rings, stone circles, and ring sites: This is a relatively common site type in the study area and includes circles of stone interpreted as having been used to hold down tipi lodge covers. Conical and cribbed log structures are often stand alone structures with few associated artifacts. Tipi ring sites include, but are not limited to Demi-John Flat National Historic District and the Bandit Site (48BH0460). Conical and cribbed log structures include, but are not limited to the structures found within Hoskins Basin Archaeological District.

F.4.3.1 Management Direction

F.4.3.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Cultural Resource Project Plans would be developed that further define this class of sites and clarify acceptable management actions.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- All sites initially allocated to Conservation, Scientific, Traditional, or Public Use would be subject to site-specific activity plans that preserve portions of the sites for future use.
- Use of site stewards for monitoring would be encouraged.

F.4.3.1.2 Scientific Use:

- National Register nominations would be completed for all sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.
- Excavation would be allowed subject to management plan with appropriate research design.
- Partnerships for excavation/scientific research would be encouraged.

F.4.3.1.3 Public Use:

- Continue to produce materials and programs on “Leave What You Find” principles and environmental ethics.

F.4.3.1.4 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

Development of interpretative sites would be implemented as appropriate.

F.4.4 Parameter – Cultural Resource Use Allocation: Lithic Scatters/Workshops

The term lithic scatter is very broadly applied to a range of sites containing stone cultural material. These may be sites representing the remains of limited chipped stone tool manufacture or repair, generally viewed as having ephemeral use and low information value, or sites with greater variety of artifacts, features, and attributes, as well as unknown depositional characteristics. The term lithic scatter appears as a catch-all for site with a variety of data potential. Site components described as workshops generally seem subjectively classified on the basis of lithic debitage content observed on the surface.

F.4.4.1 Management Direction

F.4.4.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection act of 1979 would be posted where evidence of public use exists.
- Cultural Resource Project Plans would be developed that further define this class of sites and clarify acceptable management actions.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for the future).
- All sites initially allocated to Conservation, Scientific, Experimental, or Discharged from Management Use would be subject to site-specific activity plans that preserve portions of the sites for future use.
- Continue to produce material and give programs on “leave what you find” principles and environmental ethics.
- Use of site stewards for monitoring would be encouraged.

F.4.4.1.2 Scientific Use:

- National Register nominations would be completed for all eligible sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.

F.4.4.1.3 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

F.4.5 Parameter – Cultural Resource Use Allocation: Communal Kill Sites

These sites are also called ambush game drives, buffalo jumps, bison pounds or traps, or other kill sites including processing areas. They are primarily defined by the occurrence of high numbers of animal bone, generally in a bone bed, and a high density of hunting and butchering tools in the artifact assemblages. These sites include, but are not limited to the sites found in the Stark Site ACEC.

F.4.5.1 Management Direction

F.4.5.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection act of 1979 would be posted where evidence of public use exists.
- Cultural Resource Project Plans would be developed that further define this class of sites and clarify acceptable management actions.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for the future).
- All sites initially allocated to Conservation, Scientific, or Experimental would be subject to site-specific activity plans that preserve portions of the sites for future use.
- Use of site stewards for monitoring would be encouraged.

F.4.5.1.2 Scientific Use:

- National Register nominations would be completed for all eligible sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.

F.4.5.1.3 Public Use:

- Continue to produce materials and give programs on “leave what you find” principles and environmental ethics.

F.4.5.1.4 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

F.4.6 Parameter – Cultural Resource Use Allocation: Aboriginal Trails

Documentation of actual use of a trail or trail system during prehistory is difficult and evidence used to support such use is often circumstantial. Documented use during the historic period is often used to argue use during the prehistoric period. Some researchers suggest that some linear arrangements of cairns may mark trail systems. Others suggest linear clusters or concentrations of archaeological sites along prominent landforms (e.g. high ridges or ridge systems, river valleys, drainage divides) may indicate prehistoric trail use. These sites include, but are not limited to Meeteetse Trail, travois trails in Demi-John Flat National Register District, Bad Pass Trail, and the Nez Perce NHT.

F.4.6.1 Management Direction

F.4.6.1.1 Management:

- An intensive archaeological inventory of the corridor of each site would be done to establish baseline information on a priority basis as identified in Cultural Resources Project Plans.
- An historic context report for each resource would be written on a priority basis as identified in Cultural Resource Project Plans.
- Use of site stewards for monitoring would be encouraged.

F.4.6.1.2 Scientific Use:

- Trail related sites would be inventoried and condition recorded on a priority basis as identified in Cultural Resources Project Plans.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).

F.4.6.1.3 Conservation for Future Use:

- Informational signs would be posted at all major intersections along existing Public Use sites.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- Trail related sites would be inventoried and condition recorded.

F.4.6.1.4 Public Use:

- Informational signs would be posted at all major intersections along Public Use sites, as appropriate.
- Activity level cultural resource project plans would be prepared for public use sites that would identify interpretive needs including signs, interpretive kiosks, etc.
- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.

F.4.6.1.5 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated National Scenic and Historic Trails
- Routes under national study

The BLM would manage the cultural historic landscape (setting) around National Historic Trails according to the National Historic Preservation Act. Designated national historic trails would be managed according to the National Scenic and Historic Trail Act (16 USC sections 1241-1251) and the BLM's National Scenic and Historic Trails Strategy and Work Plan (2006).

The BLM would allocate and manage all National Register eligible historic trails for Scientific, Conservation, Traditional, and Public Use.

National Historic Trails would be allocated to Public Use and should have Cultural Resource Project Plans prepared to better balance Public, Scientific, and Conservation Use. Interpretative sites would be established at Public Use sites as appropriate.

F.4.7 Parameter – Cultural Resource Use Allocations: Lithic Procurement Sites/Quarries (bedrock and surface)

Bedrock quarries are defined by the existence of bedrock exposures at the site and surface quarries are defined by areas where lithic material occurs as “free rock” in cobble, nodular, or pebble form. Much of the study area is located on the glaciated plains where lithic materials are dominated by quartzite derived from glacial cobbles that are ubiquitous in glacial deposits. These sites include, but are not limited to the numerous quarries found in the Pryor Mountains.

F.4.7.1 Management Direction

F.4.7.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.

- Cultural Resource Project Plans would be developed that include addressing mineral collection of non-artifacts from quarry/source locations.
- Use of site stewards for monitoring would be encouraged.

F.4.7.1.2 Scientific Use:

- National Register nominations would be completed for all sites allocated to Scientific Use on a priority basis as identified in Cultural Resource Project Plans.

F.4.7.1.3 Public Use:

- Information would be made available that would enable the public to distinguish between artifacts and mineral specimens would be developed and produced.
- Continue to produce materials and give programs on “leave what you find” principles and environmental ethics.

F.4.7.1.4 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

F.4.8 Parameter – Cultural Resource Use Allocations: Vision Quest Sites, Sacred Sites, Traditional Use Areas, Traditional Cultural Properties, Ethnohistoric Sites

Vision quest sites are considered linked to ceremonial and religious activities. Archaeologists generally distinguish vision quest sites as u-shaped or oval stone features forming low enclosures. Vision quest sites are often found on prominent parts of the landscape such as mountains, bluffs, hills, cliffs, rock outcrops, and buttes. Vision quest sites include, but are not limited to vision quest sites in the Pryor Mountains and at Four Dances ACEC.

F.4.8.1 Management Direction

F.4.8.1.1 Management:

- When identified, locations and boundaries of vision quest sites, ethnohistoric sites, sacred sites, traditional use areas, and Traditional Cultural Properties would be described with Global Positioning Systems.
- When identified, ethnohistoric sites, sacred sites, traditional use areas, and Traditional Cultural Properties would be recorded.
- Fire potential would be evaluated and fuels removed where there is threat of loss.
- National Register nominations would be completed on a priority basis as identified in Cultural Resource Project Plans.

- Pending approval of Cultural Resource Project Plans, all sites would be allocated to Conservation Use.
- Use of site stewards for monitoring would be encouraged.

F.4.8.1.2 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All National Register eligible ethnohistoric sites would be allocated and managed primarily for Conservation Use unless subject to Cultural Resource Project Plans.

All Traditional Cultural Properties identified would be allocated and managed primarily for Traditional Use.

All vision quest sites identified would be allocated and managed primarily for Traditional and Conservation Use.

All sacred sites or traditional use areas identified would be allocated and managed for Conservation Use.

F.4.9 Parameter – Cultural Resource Use Allocation: Historic Features

Historic features include, but are not limited to historic irrigation systems (canals, ditches, laterals, pumping station/houses, headgates, etc.), stock ponds and reservoirs, often includes CCC constructed features,

F.4.9.1 Management Direction

F.4.9.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Historic context reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Historic structure reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures would be completed on a priority basis as identified in Cultural Resource Project Plans.

- Photo documentation of historic features and landscapes would be obtained.
- Use of site stewards for monitoring would be encouraged.

F.4.9.1.2 Scientific Use:

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use.)

F.4.9.1.3 Conservation Use:

- Conservation of the setting would be emphasized.
- Stabilization and/or rehabilitation of standing structures would be done on a priority basis as identified in Cultural Resource Project Plans.
- Discharged from Management:
- Subsequent to scientific use, when preservation in place is impractical, sites may be discharged.

F.4.9.1.4 Public Use:

- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.
- Standing structures would be considered for adaptive uses.

F.4.9.1.5 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All of the National Register eligible sites would be allocated and managed for Scientific Use and/or Public Use. Sites may be Discharged from Management when not eligible for the National Register of Historic Places.

F.4.10 Parameter – Cultural Resource Use Allocation: Historic Roads and Trails

Historic roads and trails in the planning area include, but are not limited to the Bridger Cut-Off Trail, Fort Ellis to Fort Keogh (Road to Tongue River) Military Trail, Bozeman Trail, Meeteetse Trail, and the Lewis and Clark National Historic Trail.

F.4.10.1 Management Direction

F.4.10.1.1 Management:

- An intensive archaeological inventory of the corridor of each site would be done to establish baseline information on a priority basis as identified in Cultural Resources Project Plans.

- An historic context report for each resource would be written on a priority basis as identified in Cultural Resource Project Plans.
- Use of site stewards for monitoring would be encouraged.

F.4.10.1.2 Scientific Use:

- Road/trail related sites would be inventoried and condition recorded on a priority basis as identified in Cultural Resources Project Plans.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).

F.4.10.1.3 Conservation for Future Use:

- Informational signs would be posted at all major intersections along existing Public Use sites.
- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- Road/trail related sites would be inventoried and condition recorded.

F.4.10.1.4 Public Use:

- Informational signs would be posted at all major intersections along Public Use sites, as appropriate.
- Activity level cultural resource project plans would be prepared for public use sites that would identify interpretive needs including signs, interpretive kiosks, driving guides, etc.
- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.

F.4.10.1.5 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated National Scenic and Historic Trails
- Routes under national study

The BLM would manage the cultural historic landscape (setting) around National Historic Trails according to the National Historic Preservation Act. Designated national historic trails would be managed according to the National Scenic and Historic Trail Act (16 USC sections 1241-1251) and the BLM's National Scenic and Historic Trails Strategy and Work Plan (2006).

The BLM would allocate and manage all National Register eligible historic roads and trails for Scientific, Conservation, and Public Use.

National Historic Trails would be allocated to Public Use and should have Cultural Resource Project Plans prepared to better balance Public, Scientific, and Conservation Use. Interpretative sites would be established at Public Use sites as appropriate.

F.4.11 Parameter – Cultural Resource Use Allocations: Historic Structures and/or Homesteads

Historic homesteads/farmsteads are the most common historic sites in the planning area and the best represented historic time period is 1900-1909.

F.4.11.1 Management Direction

F.4.11.1.1 Management:

- Historic context reports would be written on a priority basis as identified in Cultural Resources Project Plans.
- Historic structure reports would be written on a priority basis as identified in Cultural Resources Project Plans.
- Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures would be completed on a priority basis as identified in Cultural Resources Project Plans
- Photo documentation of historic features and landscapes would be obtained.
- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- An intensive archaeological inventory of the resources (structure or homestead) would be completed for baseline information based on priorities identified in Cultural Resources Project Plans.
- Standing structures would be stabilized or rehabilitated on a priority basis as identified in Cultural Resources Project Plans.
- Use of site stewards for monitoring would be encouraged.

F.4.11.1.2 Scientific Use:

- Signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted as appropriate.
- Surface collection of artifacts may be permitted under the Archaeological Resources Protection Act of 1979 if there is threat of loss or destruction.
- Data recovery would be permitted in those instances where future protection is not feasible.

- Excavation would be allowed subject to management with appropriate research design (which conserves samples for future use).

F.4.11.1.3 Conservation for Future Use:

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use).
- Signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted as appropriate.
- Stabilization and/or rehabilitation of standing structures would be done on a priority basis as identified in Cultural Resource Project Plans.

F.4.11.1.4 Public Use:

- At least one kiosk with interpretation panel would be placed for each resource, as appropriate.
- National Register nominations would be completed for all Public Use sites based on priorities developed in Cultural Resource Project Plans.
- Preservation and reuse of historic buildings would be considered as appropriate.

F.4.11.1.5 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Those areas containing historic structures or homesteads identified for prescribed or wildland fire use
- Existing designated sites

All National Register eligible sites with evidence of unauthorized excavation would be allocated and managed for Conservation Use and/or Scientific Use in order to perform data recovery in those instances where future protection is not feasible. The remaining National Register eligible sites would be allocated and managed for Scientific and/or Public Use.

The BLM would allocate and manage all of the National Register eligible sites with standing structures for Conservation and/or Public Use.

Interpretative sites would be developed as appropriate.

F.4.12 Parameter – Cultural Resource Use Allocations: Historic Industrial/Development (mines, oil and gas, etc.) Structures and Landscapes

Historic industrial/development sites include, but are not limited to the historic coal mines in Weatherman Draw, the historic oil and gas development in Elk Basin, and the historic mining/prospecting in the Pryor Mountains

F.4.12.1 Management Direction

F.4.12.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Historic context reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Historic structure reports would be written on a priority basis as identified in Cultural Resource Project Plans.
- Level I documentation (measured drawings, plans, elevations, photos, and narratives) on all standing structures would be completed on a priority basis as identified in Cultural Resource Project Plans.
- Photo documentation of historic features and landscapes would be obtained.
- Use of site stewards for monitoring would be encouraged.

F.4.12.1.2 Scientific Use:

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use.)

F.4.12.1.3 Conservation Use:

- Conservation of the setting would be emphasized.
- Stabilization and/or rehabilitation of standing structures would be done on a priority basis as identified in Cultural Resource Project Plans.

F.4.12.1.4 Discharged from Management:

- Subsequent to scientific use, when preservation in place is impractical, sites may be discharged.

F.4.12.1.5 Public Use:

- National Register nominations would be completed for all Public Use sites on a priority basis as identified in Cultural Resource Project Plans.
- Standing structures would be considered for adaptive uses.

F.4.12.1.6 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All of the National Register eligible sites would be allocated and managed for Scientific Use and/or Public Use. Sites may be Discharged from Management when not eligible for the National Register of Historic Places.

F.4.13 Parameter – Cultural Resource Use Allocations: “Other” Sites

“Other” is defined as those sites not falling into any of the above 12 site types.

F.4.13.1 Management Direction

F.4.13.1.1 Management:

- Fire potential would be evaluated and fuels would be removed where there is threat of loss.
- Appropriate signs with information on site etiquette and the Archaeological Resources Protection Act of 1979 would be posted where evidence of public use exists.
- Use of site stewards for monitoring would be encouraged.

F.4.13.1.2 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

All National Register eligible sites would be allocated and managed for Scientific and/or Conservation Use with Public Use being monitored. Scientific Use would be permitted if it does not destroy features.

Table F-2 Cultural Resource Use Categories, National Register Eligibility and Preservation/National Register Nomination Criteria

Cultural Resource Use Category	National Register Eligibility	Preservation / National Register Nomination	Site Types Generally Included
Scientific Use	Usually eligible (under Criterion d)	Long-term preservation not critical; medium National Register nomination priority	Prehistoric: sites with high artifact count and diversity, high complexity, and larger size Historic: sites with archaeological and historic values, and generally poor structural integrity
Conservation for Future Use	Always eligible (generally eligible under Criteria d, a, or c and possibly b for historic sites)	Long-term preservation is required; highest nomination priority	Prehistoric: sites inherently complex, or rare, or fragile, and exhibit exceptional scientific values (e.g. wickiups, deeply stratified deposits, or large quarries) Historic: sites inherently complex, or rare, or fragile, generally significant standing structures (stabilization and preservation required)
Traditional Use	May be eligible (generally under Criteria a and d, possibly b and c as well)	Long-term preservation is desirable; nomination priority is determined in consultation with the appropriate cultural group(s)	Sites and locations determined in consultation with appropriate cultural group(s) Prehistoric may include: burial locations, vision quest locations, pictographs and petroglyphs, certain tipi ring sites Historic/Modern: plant gathering locations, areas considered sacred for religious purposes, tradition use areas, etc.
Public Use	Usually eligible (generally Criteria a, b, and c, possibly d as well)	Long-term preservation is desirable; high nomination priority	Prehistoric: high interpretative potential and can insure protection Historic: high interpretative potential and can insure stabilization and protection and/or adaptive reuse
Experimental Use	May be eligible (generally under Criterion d if at all)	Long-term preservation is not anticipated; low nomination priority	Prehistoric: lithic scatters of limited artifact density and complexity Historic: trash scatters, collapsed structures with no integrity or context
Discharged from Management	Not eligible	Long-term preservation and management are not considerations; nomination is inappropriate	Prehistoric: isolated finds, surface lithic scatters <50 items Historic: isolated prospect pits, trash scatters <50 items, sites < 50 years old

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**Appendix G:
Split Estate Lands**

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G. Split Estate Lands

The BLM manages 700 million acres of subsurface mineral estate nationwide, including approximately 58 million acres where the surface is privately owned. In Montana, an estimated 11.7 million acres of the private land is split estate, meaning the surface land rights are privately owned and the subsurface mineral rights are federally owned. Within the Billings Field Office planning area, approximately 889,497 acres are federally owned minerals managed by the Billings Field Office. The majority of this split estate land was patented under the Stock Raising Homestead Act (SHRA) of December 29, 1916, as amended, (43 USC §299).

Split estate is a largely a legacy of the Stock Raising Homestead Act passed by Congress and signed into law by President Woodrow Wilson in 1916. This law allowed a settler to claim 640 acres of non-irrigable land that had been designated by the Secretary of the Interior as "stock raising" land. At a time when mineral exploration was beginning to escalate, the federal government opted to maintain the mineral rights to the land claimed under that 1916 law.

The actual language found on a SRHA patent for this mineral reservation is: "Excepting and reserving, however, to the United States all coal and other minerals in the lands so entered and patented, together with the right to prospect for, mine, and remove the same pursuant to the provisions and limitation of the Act of December 29, 1916 (39 Stat., 862).

The term "other minerals" includes (but is not limited to): leasable minerals (oil, gas, geothermal, phosphate, sodium, and potassium), locatable minerals (gold, silver, copper, gypsum, and bentonite), and mineral materials (including sand, gravel, scoria, pumice, and stone). In 1982, the Supreme Court affirmed the SRHA mineral reservation definition and further defined it to include substances that:

1. are mineral in character,
2. are inorganic,
3. can be taken from the soil,
4. can be used for commercial purposes,
5. were not intended to be included in the surface estate,
6. have a separate value,
7. are not necessarily metalliferous, and
8. may not necessarily have a definite chemical composition.

The BLM has the authority to condition and regulate federally authorized leases, specifically oil and gas, on split estate lands and the policy and guidance used to accomplish this.

The BLM is mandated by the Federal Land Policy and Management Act (FLPMA) of 1976, Section 202, to develop, maintain, and revise land use plans on public lands, where appropriate, using and observing the principles of multiple use and sustained yield. Section 103(e) of the FLPMA defines public lands as any lands and interest in lands owned by the United States. The mineral estate is an interest owned by the United States. The BLM has an obligation to address this interest in their planning documents (43 CFR 1610.0-7(b)).

Through the years, two areas of concern have consistently arisen from this split estate land issue: Does the BLM have the statutory authority to regulate how private surface owners use their property, and does the BLM have the authority to condition and regulate a federal mineral development, such as federal oil and gas leases. These two concerns have been addressed in the resolution of two resource management plan (RMP) protests in 1988 on split estate lands (North Dakota RMP and Little Snake RMP) and two Washington Solicitor's Opinions (April 1 and 4, 1988). The conclusion states:

In summary, while the BLM does not have the legal authority in split estate situations to regulate how a surface owner manages his or her property, the agency does have the statutory authority to take reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized mineral lease activity.

An example of the authority the BLM does have, is summarized in the January 7, 1992, Interior Board of Land Appeals (IBLA) Decision (122 IBLA 36, Glen Morgan, January 7, 1992), which states that "The operator of an oil and gas lease is responsible for reclamation of land leased for oil and gas purposes, even after the expiration of the lease and even where the surface estate is privately owned. Such reclamation includes the restoration of any area within the lease boundaries disturbed by lease operations to the condition in which it was found prior to the surface-disturbing activities." Another key point presented in this IBLA decision referenced the reservation of mineral reserves under Section 9 of the SRHA. This section states that the United States reserves the "right to prospect for, mine, and remove the [reserved minerals]," which encompasses "all purposes reasonable incident to the mining or removal of the coal or other minerals" (43 USC § 299, 1988). As long interpreted by the United States Department of the Interior (DOI), such purposes include reclamation of the surface of the impacted land after mining is complete and the minerals are removed.

For more information see the following link:

http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/split_estate.html

Appendix H: Wildlife Resources

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Appendix H –Wildlife Resources

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H.1 Threatened and Endangered Species, Special Status Species Plants and Animals

Special status species include species listed, proposed for listing, or candidate species under the Endangered Species Act and sensitive species identified by the BLM

Species	USFWS Status	BLM Status
Mammals		
<i>White-tailed prairie dog</i>	None	Sensitive
<i>Black-tailed prairie dog</i>	None	Sensitive
<i>Black-footed ferret*</i>	Endangered	
<i>Gray wolf</i>	Threatened (experimental pop.)	
<i>Grizzly Bear</i>	Threatened	
<i>Canada Lynx</i>	Threatened	
<i>Wolverine</i>	Candidate	
<i>Townsend's big-eared bat</i>		Sensitive
<i>Spotted bat</i>		Sensitive
<i>Fringe-tailed myotis bat</i>		Sensitive
<i>Long-legged myotis bat</i>		Sensitive
<i>Long-eared myotis bat</i>		Sensitive
<i>Pallid bat</i>		Sensitive
Birds		
<i>Whooping crane</i>	Endangered	
<i>Mountain plover</i>	Proposed	Sensitive
<i>Greater sage-grouse</i>	Candidate	Sensitive
<i>BLM sensitive raptors (peregrine falcon, burrowing owl, ferruginous hawk, Swainson's hawk)</i>	None	Sensitive
<i>Migratory birds</i>	None	Sensitive
Reptiles/Amphibians		
<i>Greater short-horned lizard</i>		Sensitive
<i>Milk snake</i>		Sensitive
<i>Northern leopard frog</i>		Sensitive
<i>Spiny softshell turtle</i>		Sensitive
<i>Western hog-nosed snake</i>		Sensitive
Fish		
<i>Yellowstone Cutthroat Trout</i>		Sensitive
<i>Sauger</i>		

Special Status Plants in the Billings Field Office Planning Area

Common Name ¹	Scientific Name ¹	Global/State Status
Nodding rock cress	<i>Arabis demissa</i> v. <i>languid</i> (<i>Boechera demissa</i>)	G5S1S3
Cushion milkvetch	<i>Astragalus aretioides</i> (<i>Orophaca aretioides</i>)	G4S2
Geyer's milkvetch	<i>Astragalus geyeri</i>	G4S2
Gray's milkvetch	<i>Astragalus grayi</i>	G4?S2
Oregon milkvetch	<i>Astragalus oregonus</i>	G4?S1
Blackfoot River evening-primrose	<i>Camissonia andina</i> (<i>Oenothera andina</i>)	G4S2
Lewis River suncup	<i>Camissonia parvula</i> (<i>Oenothera parvula</i>)	G5S1
Yellow spiderflower	<i>Cleome lutea</i>	G5S1
Pinyon Desert cryptantha	<i>Cryptantha scoparia</i>	G4S1
Spiny hopsage	<i>Grayia spinosa</i>	G5S2
Mat prickly phlox	<i>Leptodactylon caespitosum</i>	G4S2
Pryor Mountain bladderpod	<i>Lesquerella lesicii</i> (<i>Physaria lesicii</i>)	G1S1
Torrey's desert dandelion	<i>Malacothrix torreyi</i> (<i>M. sonchoides</i> v. <i>torreyi</i>)	G4S1
Dwarf mentzelia	<i>Mentzelia pumila</i>	G4S2
Leafy nama	<i>Nama densum</i>	G5S1
Wasatch bluegrass	<i>Poa arnowiae</i> (<i>P. curta</i>)	G4S1
Platte River cinquefoil	<i>Potentilla platensis</i>	G4S1
Largeflower goldenweed	<i>Pyrrocoma carthamoides</i> v. <i>subsquarrosa</i> (<i>Haplopappus carthamoides</i> var. <i>subsquarrosus</i>)	G4G5T2T3S2
Persistent sepal yellowcress	<i>Rorippa calycina</i>	G3S1
Shoshone carrot	<i>Shoshonea pulvinata</i>	G2G3S1
Salty buckwheat	<i>Stenogonum salsuginosum</i> (<i>Eriogonum</i> s.)	G4?S1
The international network of Natural Heritage Programs employs a standardized ranking system to denote global (G) (range-wide) and State (S) (Nature-Serve 2006) status. Species are assigned numeric ranks ranging from 1 (highest risk, greatest concern) to 5 (demonstrably secure), reflection the relative degree of risk to the species' viability, based upon available information.		
G1 S1 At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.		
G2 S2 At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.		
G3 S3 Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.		
G4 S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.		
G5 S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.		
Sub-rank		
T# Rank of a subspecies or variety. Appended to the global rank of the full species, e.g. G4T3		
? Inexact Numeric Rank - Denotes uncertainty; inexactness.		
¹ Species nomenclature consistent with the USDA PLANTS database (USDA 2009).		

H.2 US Fish and Wildlife Consultation Memorandum



United States Department of the Interior Fish and Wildlife Service

Ecological Services
Montana Field Office
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Helena, Montana 59601-6387
Phone: (406) 448-5225 Fax: (406) 448-5339



File: M02 BLM

March 30, 2015

Memorandum

To: Jamie Connell, State Director, Bureau of Land Management, Montana/Dakotas
State Office, Billings, Montana

From: for Jodi L. Bush, Field Supervisor, U.S. Fish and Wildlife Service, Montana Field
Office, Helena, Montana

Subject: Updated List of Endangered, Threatened, Proposed, and Candidate Species

This is in response to your office's March 19, 2015 email request for updated information from the U.S. Fish and Wildlife Service (Service) regarding federally listed and proposed threatened and endangered species, candidate species, and critical habitat that may occur in the vicinity of the Lewistown, Billings and Pompey's Pillar National Monument, HiLine, and Miles City Field Office Resource Management Plan (RMP) Amendment / Revision and Environmental Impact Statement (EIS) planning areas in central and eastern Montana.

We understand the planning areas to include portions of the following counties:

- Lewistown RMP - Chouteau, Fergus, Judith Basin, Meagher, and Petroleum;
- Billings and Pompey's Pillar National Monument RMP - Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone;
- HiLine RMP - Glacier, Toole, Liberty, Hill, Blaine, Phillips, Valley, and Chouteau;
- Miles City RMP - Carter, Powder River, Fallon, Custer, Rosebud, Wibaux, Prairie, Garfield, McCone, Dawson, Richland, Roosevelt, Sheridan, Daniels, Treasure, Valley, and Big Horn.

Our comments are provided as a cooperating agency pursuant to the National Environmental Policy Act (NEPA) and 40 Code of Federal Regulations Part 1500-1508, 43 C.F.R. 46.230, and as requested per the March 2012 Memorandum of Understanding (MOU) between BLM, the U.S. Fish and Wildlife Service (Service) and the U.S. Forest Service (USFS). These comments are authorized under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et. seq.), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). In accordance with section 7(c) of the ESA, the Service has determined that the following listed species may be present in the subject planning area vicinities:

Species	Status ¹	Resource Management Plan Planning Areas			
		Billings and Pompey's Pillar National Monument	HiLine	Lewistown	Miles City
Black-footed Ferret (<i>Mustela nigripes</i>)	LE/XN	x	x	x	x
Whooping Crane (<i>Grus americana</i>)	LE		x		x
Least Tern (<i>Sterna antillarum</i>)	LE		x		x
Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	LE		x	x	x
Grizzly Bear (<i>Ursus arctos horribilis</i>)	LT	x	x		
Piping Plover (<i>Charadrius melodus</i>)	LT CH		x		x
Canada Lynx (<i>Lynx canadensis</i>)	LT CH	x		x	
Red Knot (<i>Calidris canutus rufa</i>)	LT	x	x		x
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	P				x
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	C	x	x	x	x
Sprague's Pipit (<i>Anthus spragueii</i>)	C	x	x	x	x
Whitebark Pine (<i>Pinus albicarpa</i>)	C	x	x	x	

¹ LT = Listed Threatened; LE = Listed Endangered; P = Proposed Threatened or Endangered; CH = Critical Habitat; C = Candidate; XN = Experimental Non-Essential Population

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your project planning. If you have questions or comments related to this issue, please contact Jeff Berghund at (406) 449-5225, extension 206.



United States Department of the Interior
Fish and Wildlife Service



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January 11, 2010

To: Field Manager, Bureau of Land Management, Billings Field Office, Billings, MT
From: Field Supervisor, FWS, Ecological Services Field Office, Helena, MT
Subject: Threatened and Endangered Species List and Migratory Bird Input For Resource Management Plan Development

This is in response to your letter dated November 24, 2009 requesting information from the U.S. Fish and Wildlife Service (Service) on federally listed threatened and endangered species that may occur in the vicinity of Bureau of Land Management (BLM) administered lands in Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone Counties. We understand that BLM has initiated a revision of the Resource Management Plan (RMP) that guides management of BLM administered surface and mineral estate acres in these counties. Your request was received in this office on November 25, 2009.

Species that are currently listed as threatened, endangered, proposed or candidates for protection under the Endangered Species Act and the counties in which they occur include:

Common Name	Scientific Name	Status	Counties
Black-footed ferret	<i>Mustela nigripes</i>	E/XN	Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, Yellowstone
Grizzly Bear	<i>Ursus arctos horribilis</i>	T	Carbon, Stillwater, Sweet Grass
Canada Lynx	<i>Lynx canadensis</i>	T, CH	Carbon, Stillwater, Sweet Grass
Whooping Crane	<i>Grus americana</i>	E	Yellowstone

E – endangered; T – threatened; CH – critical habitat; XN – non-essential experimental population

A number of species with potential habitat in central and southern Montana may become candidate or listed species within the next year. The species currently under consideration and the anticipated date of the release of the finding of whether listing is warranted are:

Greater Sage Grouse (<i>Centrocercus urophasianus</i>)	Feb. 26, 2010
Northern Leopard Frog (<i>Lithobates pipiens</i>)	July 1, 2010
Mountain Plover (<i>Charadrius montanus</i>)	July 31, 2010
Sprague's Pipit (<i>Anthus spragueii</i>)	Sept. 1, 2010
White-tailed Prairie Dog (<i>Cynomys leucurus</i>)	June 1, 2010

This species list is valid for 90 days. If the RMP is not completed in that time, you may reconfirm the currently listed species for the project area at:

http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species.html

Mountain Plover

At this time, we are providing additional information on the mountain plover. Mountain plover breeding and wintering habitats include grasslands, mixed grassland areas and short-grass prairie, shrub-steppe, plains, alkali flats, agricultural lands, cultivated lands, sod farms, and prairie dog towns. Plovers may nest on sites where vegetation is sparse or absent, or near closely cropped areas, manure piles or rocky areas. Mountain plovers are rarely found near water and show a preference for previously disturbed areas or modified habitat. In Montana, mountain plovers prefer active prairie dog towns.

On December 30, 1982, we designated the mountain plover as a category 2 candidate species, meaning that more information was necessary to determine whether the species status is declining, stable, or improving (47 FR 58458). In 1990, we prepared a status report on the mountain plover indicating that Federal listing may be warranted (Leachman and Osmundson 1990). We elevated the mountain plover to a category 1 candidate species in the November 15, 1994, Animal Candidate Notice of Review (59 FR 58982). At that time, category 1 candidate species were defined as those species for which we had sufficient information on biological vulnerability and threats to support issuance of a proposed rule to list. In 1996, we redefined candidate species and eliminated category 2 and 3 candidate designations (61 FR 64481). Candidate species were defined using the old category 1 definition. The mountain plover retained its candidate species designation as reported in the September 19, 1997, Review of Plant and Animal Taxa (62 FR 49398). On July 7, 1997, we received a petition to list the mountain plover as threatened from the Biodiversity Legal Foundation. The Service responded by notifying the petitioner that petitions for candidate species are considered second petitions, because candidate species are species for which we have already decided that listing may be warranted. Therefore, no 90-day finding was required for the Biodiversity Legal Foundation's petition. We published a proposed rule to list the mountain plover as threatened on February 16, 1999 (64 FR 7587). After gathering additional information, the Service published the Proposed rule again (67 FR 72396) with a 4(d) rule. We published a Not Warranted/Withdrawal

(68 FR 53083) on September 9, 2003. We were subsequently sued. The Service settled a lawsuit on the 2003 Not Warranted finding for mountain plover (68 FR 53083) by agreeing to submit a Federal Register notice reopening the proposal to list the mountain plover and providing for public comment by July 31, 2009. Upon the publication of this notice, the withdrawal of the proposed rule (68 FR 53083) from 2002 will be vacated, meaning that it will be back in effect and the plover will be a proposed species again. A final decision is due by May 1, 2011. The FR notice will allow an opportunity to provide new information to the public for review and comment, but won't be an analysis of the status of the species.

After July 31, 2010, the mountain plover will be a proposed species and therefore we will again be reviewing project impacts to this species under the Act. We strongly encourage the lead federal agency to develop protective measures, with an assurance of implementation should mountain plovers be found within the project areas. Although conferencing on species proposed for listing is only required when the proposed action is likely to jeopardize that species, development of protective measures through conferencing can expedite consultation requirements should the species be listed prior to the completion of the project/actions.

To minimize potential adverse impacts to plovers in sites planned for development, the Service recommends surveys for mountain plovers in all suitable habitat as well as avoidance of nesting areas from April 10 through July 10. Please refer to the Mountain Plover Survey Guidelines (March 2002), for information regarding surveys and protection stipulations. For instance, the Service recommends that if an active mountain plover nest site is found, project activities near the nest site should be delayed 37 days or 7 days post hatching. If a brood of flightless chicks is observed, activities should be delayed at least 7 days. Cessation of disturbance in occupied plover habitat during the breeding season will help to protect nests and flightless broods. While the Service believes that surveys and avoidance of nesting and brood rearing areas will reduce the chances of direct impacts to and mortality of individual mountain plovers within the area, we also recommend consideration of changes in habitat suitability and habitat loss during project planning. Measures to protect the mountain plover from further decline may include (1) avoidance of suitable habitat during the plover nesting season (April 10 through July 10), (2) prohibition of ground disturbing activities in prairie dog towns, and (3) prohibition of any permanent above ground structures that may provide perches for avian predators or deter plovers from using preferred habitat.

Until July 31, 2010, we encourage the Bureau and their applicants to continue providing protection for this species as it remains protected under the Migratory Bird Treaty Act (16 U.S.C. 703) and as a sensitive species under Bureau policy (Bureau Manual 6840.06 E. Sensitive Species).

There may be state species of concern in the vicinity of these sites and we recommend contacting the Montana Department of Fish, Wildlife and Parks at 1420 East Sixth Ave., P.O. Box 200701, Helena, MT 59620-0701, 406-444-2535 or the Montana Natural Heritage Program, 1515 East 6th Avenue, Box 201800, Helena, MT 59620-1800, 406-444-5354. Information for state species of concern, along with observation data for many plant and animal species

(including federally listed species), may be accessed via the Natural Heritage Tracker at:
<http://mtnhp.org/Tracker/NHTMap.aspx>.

Migratory Birds

All federal agencies have an obligation to protect and conserve the many species of migratory birds, including eagles and other raptors protected under the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act, and Migratory Bird Executive Order 13186 (January 11, 2001). The MBTA, 16 U.S.C. 703, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations and does not require intent to be proven. Section 703 of the MBTA states, "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird..." The BGEPA, 16 U.S.C. 668, prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing.

Under the MBTA (16 U.S.C. 703-712: Ch. 128 *as amended*) activities in grassland, wetland, stream, and woodland habitats, and those that occur on bridges (e.g., which may affect swallow nests on bridge girders) that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be avoided.

Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Montana occurs during the period of April 15 to July 15. However, some migratory birds are known to nest outside of the primary nesting season. For example, raptors can be expected to nest in woodland habitats during February 1 through July 15, whereas sedge wrens which occur in some wetland habitats normally nest from July 15 to September 10.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." *Birds of Conservation Concern 2008 (BCC 2008)* is the most recent effort to carry out this mandate. The overall goal of this report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened, endangered or proposed) that represent our highest conservation priorities and draw attention to species in need of conservation action. Bird species that occur in Montana that are included in *Birds of Conservation Concern 2008* and may occur in your project area are listed at the end of this document as an appendix. A list of all birds protected under the MBTA can be found at: <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html>.

Migratory birds are of great ecological and economic value to this country and to other countries. The United States has recognized the critical importance of this shared resource by ratifying international, bilateral conventions for the conservation of migratory birds. Such conventions include the Convention for the Protection of Migratory Birds with Great Britain on

behalf of Canada 1916, the Convention for the Protection of Migratory Birds and Game Mammals-Mexico 1936, the Convention for the Protection of Birds and Their Environment - Japan 1972, and the Convention for the Conservation of Migratory Birds and Their Environment - Union of Soviet Socialist Republics 1978. These migratory bird conventions impose substantive obligations on the United States, and therefore the Corps, for the conservation of migratory birds and their habitats.

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your project planning. If you have questions or comments related to this issue, please telephone Lou Hanebury at 406-247-7367.

Literature Cited

Leachman, B., and B. Osmundson. 1990. Status of the mountain plover. A literature review. U.S. Fish and Wildlife Service. Golden, Colorado. 83 pp.

Appendix I USFWS – Birds of Conservation Concern 2008 in Montana

American Bittern	<i>Bataurus lentiginosus</i>	Marbled Godwit	<i>Limosa fedoa</i>
Baird's Sparrow	<i>Ammodramus bairdii</i>	McCown's Longspur	<i>Calcarius mccownii</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Mountain Plover	<i>Charadrius montanus</i>
Black Rosy-Finch	<i>Leucosticte atrata</i>	Nelson's Sharp-tailed Sparrow	<i>Ammodramus nelsoni</i>
Black Swift	<i>Cypseloides niger</i>	Olive-sided Flycatcher	<i>Contopus cooperi</i>
Black Tern	<i>Chlidonias niger</i>	Peregrine Falcon	<i>Falco peregrinus</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>
Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>	Prairie Falcon	<i>Falco mexicanus</i>
Burrowing Owl	<i>Athene cunicularia</i>	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
Calliope Hummingbird	<i>Stellula calliope</i>	Sage Sparrow	<i>Amphispiza belli</i>
Cassin's Finch	<i>Carpodacus cassinii</i>	Sage Thrasher	<i>Oreoscoptes montanus</i>
Chestnut-collared Longspur	<i>Calcarius ornatus</i>	Short-billed Dowitcher	<i>Limnodromus griseus</i>
Dickcissel	<i>Spiza americana</i>	Short-eared Owl	<i>Asio flammeus</i>
Ferruginous Hawk	<i>Buteo regalis</i>	Smith's Longspur	<i>Calcarius pictus</i>
Flammulated Owl	<i>Otus flammeolus</i>	Solitary Sandpiper	<i>Tringa solitaria</i>
Golden Eagle	<i>Aquila chrysaetos</i>	Sprague's Pipit	<i>Anthus spragueii</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Swainson's Hawk	<i>Buteo swainsoni</i>
Horned Grebe	<i>Podiceps auritus</i>	Upland Sandpiper	<i>Bartramia longicauda</i>
Hudsonian Godwit	<i>Limosa haemastica</i>	White-headed Woodpecker	<i>Picoides albolarvatus</i>
Least Bittern	<i>Ixobrychus exilis</i>	Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>
Lewis's Woodpecker	<i>Melanerpes lewis</i>	Yellow Rail	<i>Coturnicops noveboracensis</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Long-billed Curlew	<i>Numenius americanus</i>		

The majority of birds on this list are Neotropical Migratory Species that inhabit eastern Montana. These birds are known or suspected to breed in Montana and spend their winter in the "neotropics" (Central and South America).

The 1988 amendment to the Fish and Wildlife Conservation Act (FWCA) of 1980 (Pub. L. 100-653, Title VIII) requires the Secretary of the Interior, through the U.S. Fish and Wildlife Service, to "identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973." *Birds of Conservation Concern 2008* fulfills that mandate.

The species that appear in *Birds of Conservation Concern 2008* are deemed to be the highest priority for conservation actions. We anticipate that this document will be consulted by Federal agencies and their partners prior to undertaking cooperative research, monitoring, and management actions that might directly or indirectly affect migratory birds.

Our objective in publishing this list is to focus conservation attention on bird species of concern well in advance of a possible or plausible need to consider them for listing under the ESA. Inclusion on this list does not constitute a finding that listing under the ESA is warranted, or that substantial information exists to indicate that listing under the ESA may be warranted.

Birds of Conservation Concern 2008 may be downloaded from Division of Migratory Bird Management's World Wide Web page at <http://migratorybirds/fws.gov>.

H.3 SAMPLE Wildlife Monitoring and Protection Plan

The following document is a SAMPLE of the kind and type of measures that could be implemented in the event that the Billings Field Office was to receive a proposal for intensive development on public lands. This example was written specifically for coal bed natural gas development, but can be easily adapted to new types of development and site specific resources. The information is presented here to help guide future development proponents as to the level of detail that may be required. Many of the measures contained herein serve as examples of Conditions of Approval and future monitoring requirements.

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Introduction

This Wildlife Monitoring and Protection Plan (WMPP) has been revised and updated from the Statewide Oil and Gas Draft Environmental Impact Statement (DEIS) and Amendment of the Powder River and Billings Resource Management Plans (RMPs) (BLM, 2001) for the Final Billings RMP/ EIS. The DEIS and Amendment addressed future exploration and development of BLM and State of Montana managed CBNG resources and conventional oil and gas resources. The WMPP will be implemented on federal lands, including split estate, in cooperation with state agencies, federal agencies, operators, tribal representatives and landowners. If owners and managers of state and private mineral development are willing to incorporate this guidance into management of their activities, they may become a partner by entering into a Cooperative Agreement.

The goal of the WMPP is to avoid or minimize impacts to wildlife and serve as a communication tool to foster cooperative relationships among project proponents, the public, resource management agencies, landowners and adjacent tribal governments. Because this plan addresses a large geographic area composed of diverse wildlife habitats and unique situations, it must be programmatic in nature. However, the need to provide management recommendations and guidance to conserve species and habitats remains. Regional or site specific monitoring and protection plans which follow the guidance provided in this programmatic document will be required as part of each Project Plan. Implementation of this plan during the course of project development and operations should promote wildlife conservation and allow land managers and project personnel to maintain wildlife populations and productivity levels simultaneously with development. It also allows for adaptation of the project plan to ensure the protection of wildlife habitat and species affected.

Plan Purpose

The WMPP was prepared to acquire baseline wildlife information, monitor populations, and assess stipulations or other protection measures for effectiveness. Wildlife stipulations attached to leases provide protective measures: 1) for certain species or habitats, 2) during a particular time period. These stipulations may not address other concerns related to special status species or water/habitat related issues caused by direct and indirect impacts from project development. Because it is purely speculative to predict how all wildlife will react or how development will proceed, it is difficult to develop prescriptive mitigation standards across the entire planning area. Although, BLM has some adaptive management strategies in place (e.g., COAs and compliance inspections), these mechanisms do not give us the information necessary to understand cause and effect relationships. Inventory and monitoring data will be used in adaptive management for improving wildlife management techniques and processes. Therefore, the purpose of this plan is to acquire baseline wildlife information, monitor populations, and assess the effectiveness of stipulations or other protective measures. The WMPP will facilitate our ability to pinpoint problems (including the evaluation of other contributing factors), design

project plans which include conservation for declining species, monitor the effectiveness of decisions, and make recommendations to adjust management to address specific situations.

Project Plans would be required in areas where multiple separate and distinct land disturbing activities may be taking place at different times on different schedules but under one plan. These areas would typically be larger scale and longer term project proposals with potentially significant resource impacts as determined through NEPA analysis. Smaller scale projects with minimal resource impacts would not require Project Plans.

Area and Objectives

The WMPP document is the framework for wildlife monitoring and protection in the Billings RMP area and provides a template for regional and/or project specific WMPP development. The BLM, MFWP, and FWS will work cooperatively to implement portions of the WMPP over the planning area.

As energy or project development begins, development specific WMPPs, following the same template as this document, will be written in cooperation with other agencies, operators, landowners and other interests. The development analysis will include wildlife impacts from the affected area, and also the cumulative impacts from other developments (including those of other companies) as well as other activities in the area. The objectives of the program are to:

- Establish a framework for cooperation among agencies, operators, landowners, tribal governments and interest groups;
- Provide a process for data collection, data management and reporting;
- Determine needs for inventory, monitoring and protection measures;
- Provide guidance and recommendations for the conservation of wildlife species and habitats;
- Establish protocols for biological clearances or inventories of Special Status Species;
- Meet the terms and conditions of the Biological Opinion;
- Determine if management practices to conserve wildlife species and habitat in stipulations and conservation measures contained in the BLM Record of Decision, are meeting specified objectives;
- Develop recommendations to adjust management actions based on field observations and monitoring results.

Implementation of the WMPP will begin with the issuance of the *Record of Decision* and will remain in effect for the life of a project (up to 25 years). Guidance for the conservation of special status species will be incorporated into the Project Plan. Signatories on an Interagency Cooperative Agreement will serve as the “*Steering Committee (Interagency Working Group)*.” A “*Core Team*” (i.e., agency biologists) will oversee the implementation of the programmatic elements of the WMPP. As development is initiated, operator-funded biologists, approved by the BLM, will write area-specific monitoring and protection plans. These plans will be reviewed by the BLM resource specialists for completeness and content.

Initially, the programmatic template will undergo an annual review for effectiveness. A major review will be conducted every 5 years, or as determined by members of the *Core Team*,

Wildlife, and Aquatic Task Groups. The various cooperators will meet annually (or more often as needed) to evaluate the progress of the various POD inventory and monitoring efforts.

Implementation Protocol

This section provides preliminary wildlife inventory, monitoring, and protection protocol. Required actions for inventory, monitoring and protection vary by species and development intensity. In development areas, Wildlife Reporting, Inventory, and Monitoring requirements are summarized in Table 1. Standard protocol for Survey and Protection Measures way (ROW) for the application of field reviews are provided in Table 2. Alternative measures and protocols will be developed as determined by *Core Team* members in response to specific needs identified in annual reports. This document provides methods for a number of wildlife species/categories. Additional species/categories may be added based on needs identified in annual wildlife reports. The wildlife species/categories for which specific inventory, monitoring, and protection procedures will be applied were developed based on input provided by the public, other agencies, and the BLM.

Considerable efforts will be required by agency and operator personnel for plan implementation. Many of the annually proposed agency data collection activities are consistent with current agency activities. Additionally, agency cost-sharing approaches will be considered such that public demands and statutory directives are achieved.

Annual Reports and Meetings

State and federal agencies will cooperate to implement the programmatic elements of inventory, monitoring and protection actions associated with development in the Billings RMP area. The Montana participants in the Interagency Working Group will oversee implementation across the planning area and summarize information from work achieved in various PODs.

During project development (up to 25 years), to include habitat restoration or rehabilitation efforts, operators will annually provide an updated inventory and description of all existing project features (i.e., location, size, and associated level of human activity at each feature), as well as those tentatively proposed for development during the next 12 months. These data will be coupled with annual wildlife inventory, monitoring, and protection data obtained for the previous year and included in annual reports. Annual reports will be prepared by the BLM. Annual wildlife inventory, monitoring, and protection data gathered by parties other than the BLM (e.g., operators, MFWP) should provide data/summaries to the BLM using current format standards. Upon receipt of this information, annual reports will be completed in draft form by the BLM and submitted to the operators, FWS, MFWP, and other parties. A meeting of the *Core Team* will be organized by the BLM and held annually to discuss and modify, as necessary, proposed wildlife inventory, monitoring, and protection protocol for the subsequent year. Additional meetings will be scheduled as necessary.

Discussions regarding annual operator-specific financing and personnel requirements will occur at these meetings. A formula for determining these requirements will be developed at the first year's meeting (i.e., size of development, anticipated impacts, amount of public land, etc.). A protocol regarding how to accommodate previously unidentified development sites will also be

determined during the annual meeting. Final decisions will be made by the BLM based on the input of all affected parties.

A final annual report will be issued by BLM to all potentially affected individuals and groups by early February of each year. Annual reports will summarize annual wildlife inventory and monitoring results, note any trends across years, identify and assess protection measures implemented during past years, specify monitoring and protection measures proposed for the upcoming year, and recommend modifications to the existing WMPP based on the effectiveness and/or ineffectiveness of past years (i.e., identification of additional species/categories to be monitored). Where possible, data presented in reports will be used to identify potential correlations between development and wildlife productivity and/or abundance. The BLM will be the custodian of the data and stored in BLM's Geographic Information System (GIS) for retrieval and planning unless otherwise agreed to by BLM, MFWP and FWS. Raw data collected each year will be provided to other management agencies (e.g., FWS, MFWP) at the request of these agencies. In addition, sources of potential disturbance to wildlife will be identified, where practical (e.g., development activities, weather conditions, etc.). Inventory and monitoring data will be shared on a timely basis by all cooperating agencies.

Additional reports may be prepared in any year, as necessary, to comply with other relevant wildlife laws, rules, and regulations (e.g., black-footed ferret survey reports, mountain plover, sage-grouse lek counts and bald eagle habitat loss reports).

Annual Inventory and Monitoring

This document outlines the inventory and monitoring protocol for a number of selected wildlife species/categories. Protocol will be unchanged except as authorized by the BLM or specified in this plan. Additional wildlife species/categories and associated surveys may be added or wildlife species/categories and surveys may be omitted in future years, depending on the results presented in the coordinated review of annual wildlife reports. MFWP will be contacted during the coordination of survey and other data acquisition phases. Opportunistic wildlife observations may be made throughout the year by agency and operator personnel.

The frequency of inventory and monitoring will be dependent upon the level of development. In general, inventory and monitoring frequency will increase with increased levels of development. The level of effort should also be determined by species presence and development projection. Inventory and monitoring results may lead to further currently unidentifiable studies (i.e., cause and effect). The following sections identify the level of effort required by the WMPP. Site and species-specific surveys will continue to be conducted in association with application or project field reviews.

Big Game

Elk, mule deer, white-tailed deer, and pronghorn are the common big game species that may occur within parts or all of the project planning area. Annual big game seasonal habitat use data will be collected and made available to operators, Tribes and landowners. Big game use of

seasonal habitats is highly dependent upon a combination of environmental factors including terrain, forage quality and snow depth. Therefore, it is difficult to attribute changes in habitat use to a single factor. Comparisons in trends between big game seasonal habitat reference areas and seasonal habitats associated with project development may provide some insight into the response of big game to development.

General Wildlife

Wildlife mortality from project related development or activities will be documented and reported to the BLM and FWS, and measures will be taken to prevent future mortality. If the mortalities are birds, they will be collected and kept for identification by someone with an appropriate salvage permit. Also, the facilities or activities would need to be "spot checked" by appropriate BLM or FWS personnel to ensure compliance. In no cases would operators or other workers be allowed to be in possession of migratory bird carcasses. Access roads and other roads with project-related traffic increases will be monitored for wildlife mortality so that specific mitigation can be designed and implemented as deemed necessary by BLM, in consultation with MFWP.

Aquatic Species

Prior to development, baseline aquatic inventories will be conducted in potentially affected areas with operator financial assistance, in an effort to determine occurrence, abundance, and population diversity of the aquatic community. These inventories should be repeated as necessary in selected intermittent/perennial streams associated with produced water discharge, as well as selected intermittent/perennial streams associated with no produced water discharge (control sample site).

Natural fluctuations in species occurrence, abundance, and population diversity will be determined by comparing changes in control sample sites to baseline inventories. Changes in occurrence, abundance, and population diversity of the aquatic community in streams associated with produced water discharge may then be possible by comparing to the natural fluctuations.

Detection of a retraction in the range of a species, a downward trend in abundance, or reduced population diversity in systems with produced water discharge shall warrant a review of Project Plans and possible recommendations for adjustment of management to address the specific problems.

Aquatic groups to be inventoried and monitored will include:

- **Benthic macroinvertebrates** - Determine population diversity using Hess/kick net sampling protocol to measure species abundance and establish a diversity index.
- **Amphibians and aquatic reptiles** - Determine population diversity and abundance utilizing sampling methodologies being developed for prairie species.
- **Non-game fish** - Determine population diversity using electrofishing and seining.

- **Algae (periphyton)** – Determine population diversity.

Raptors

Raptor inventories will be conducted in the project area every 5 years, with financial assistance being provided by proponents. In potentially affected areas, baseline inventory should be conducted by the BLM (with operator financial assistance) prior to the commencement of development, to determine the location of raptor nests/territories and their activity status. These inventories should be repeated every 5 years (in areas with 1 or less well locations/section) for the life of the project to monitor trends in habitat use. These surveys may be implemented aerially or from the ground. Operators may provide financial assistance for some work. Data collected during the surveys (both inventory and monitoring) will be recorded on BLM approved data sheets and entered into the BLM GIS database. BLM should be contacted prior to commencement of wildlife surveys to insure proper survey protocols are being utilized.

Nest productivity monitoring will be conducted by the BLM or a BLM-approved biologist. Active nests located within 1 mile of project-related disturbance areas will be monitored between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest). These surveys generally will be conducted from the ground. However, some nests may be difficult to observe from the ground due to steep and rugged topography and may require aerial surveys. Operators may provide financial assistance for aircraft rental as necessary. Attempts will be made to determine the cause of any documented nest failure (e.g., abandonment, predation).

Additional raptor nest activity and productivity monitoring measures will be applied in areas with development (i.e., areas with greater than 1 well locations/section) on and within 1 mile of the project area. Inventory/monitoring efforts in these areas, as well as selected undeveloped reference areas will be conducted annually during April and May, followed by nest productivity monitoring. Site and species-specific nest inventories will also continue to be conducted as necessary in association with all application and project field reviews.

All raptor nest/productivity surveys will be conducted using procedures that minimize potential adverse effects to nesting raptors. Specific survey protocol for reducing detrimental effects are listed in Grier and Fyfe (1987) and Call (1978) and include the following:

- Nest visits will be delayed for as long as possible during the nesting season.
- Nests will be approached cautiously, and their status (i.e., number of nestling/fledglings) will be determined from a distance with binoculars or a spotting scope.
- Nests will be approached tangentially and in an obvious manner to avoid startling adults.
- Nests will not be visited during adverse weather conditions (e.g., extreme cold, precipitation events, windy periods, or during the hottest part of the day).
- Visits will be kept as brief as possible.
- Inventories will be coordinated by the BLM.
- The number of nest visits in any year will be kept to a minimum.

Threatened, Endangered, Candidate, and Other Species of Concern

Operators must identify and map the presence of cottonwood riparian, herbaceous riparian or wet meadows, permanent water or wetlands, prairie dog towns, or rock outcrops, ridges or knolls on their application. The presence of sensitive habitat may not indicate a species is present. It does, however, alert the proponent and BLM that a field review and surveys may be required to process the permit or initiate action. The level of effort associated with the inventory and monitoring required for threatened, endangered, candidate, and other species of concern (TEC&SC) will be commensurate with established protocol for the potentially affected species. Methodologies and results of these surveys will be included in annual reports or provided in separate supplemental reports. As TEC&SC species are added to or withdrawn from FWS and/or BLM lists, appropriate modifications will be incorporated to this plan and specified in annual reports.

TEC&SC data collected during the surveys will be provided only as necessary to those requiring the data for specific management and/or project development needs. Site- and species-specific TEC&SC surveys will continue to be conducted as necessary in association with all APD and ROW application field reviews. Data will be collected on BLM approved data sheets and entered into the BLM GIS database.

Ferruginous Hawk

Timing of surveys is very important in documenting the territory, occupancy, success and productivity of ferruginous hawk populations. The accepted survey and monitoring guidelines for ferruginous hawk are taken from the *Survey and Monitoring Guidelines for Ferruginous Hawks in Montana, 1995*.

Bald Eagle

Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following additions.

- Operators will indicate the presence of eagle habitat (nesting, foraging, roosting, winter) as previously defined on their application.
- Prior to development or construction, surveys of the wooded riparian corridors within 1.0 mile of a project area will be conducted in the winter and/or spring by BLM biologists and/or BLM-approved biologists to determine the occurrence of winter bald eagle roost sites/territories.
- Surveys will be conducted from daybreak to 2 hours after sunrise and/or from 2 hours before sunset to 1 hour after sunset by fixed-wing aircraft. Follow-up ground surveys, if necessary, will be conducted during the same time frame.
- Surveys will be at least 7 days apart. The location, activity, number, and age class (immature, mature) of any bald eagles observed will be recorded.

- If a roost or suspected roost is identified, BLM, FWS, and MFWP will be notified and a GPS record of the roost/suspected roost will be obtained and entered into the BLM GIS database. There will be No Surface Occupancy within 0.5 miles of any identified bald eagle roost site/territories.
- Nest productivity will be conducted by the BLM or a BLM-approved biologist in areas with one or more well locations per section and within 1 mile of the project area.
- Active nests located within one mile of project-related disturbance areas (well sites, pipelines, roads, compressor stations, and other infrastructure) will be monitored on an annual basis between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest).

Burrowing Owl

Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitat does not indicate burrowing owls are present. It does, however, alert the proponent and BLM that a field review and surveys may be required to process the permit or initiate action. In association with APD and ROW application field reviews, prairie dog colonies within 0.5 miles of a proposed project or any other suitable habitat within a 0.5 mile radius area, will be surveyed for western burrowing owls by BLM biologists or a BLM-approved operator-financed biologist twice yearly from June through August to determine the presence/absence of nesting owls. Efforts will be made to determine reproductive success (number of fledglings per nest).

Black-footed Ferret

Operators should indicate the presence of prairie dog towns on their application. The presence of sensitive habitat does not necessarily indicate suitable black-footed ferret habitat is present. It does, however, alert the company and BLM that a field review and surveys may be required to process the permit or initiate action. BLM biologists and/or BLM-approved operator-financed biologists will determine the presence/absence of prairie dog colonies within 0.5 miles of proposed activity during APD and ROW application field reviews. Prairie dog colonies on the area will be mapped to determine overall size following the approved methodology. Colony acreage will be determined using GIS applications. Colonies that meet FWS size criteria as potential black-footed ferret habitat (FWS 1989) will be surveyed to determine active burrow density using the methods described by Biggins et al. (1993) or other BLM- and FWS-approved methodology.

Project activity will be located to avoid impacts to prairie dog colonies that meet FWS criteria as black-footed ferret habitat (FWS 1989). If avoidance is not possible, all colonies meeting the FWS size criteria and any colonies for which density estimates are not obtained will be surveyed for black-footed ferrets by an operator-financed, FWS-certified surveyor prior to, but no more than 1 year in advance of disturbance to these colonies. Black-footed ferret surveys will be conducted in accordance with FWS guidelines (FWS 1989) and will be conducted on a site-specific basis, depending on the areas proposed for disturbance in a given year as specified in the annual report. If a black-footed ferret or its sign is found during a survey, all development

activity would be subject to recommendations from the *Montana Black-footed Ferret Survey Guidelines, Draft Managing Oil and Gas Activities in Prairie Dog Ecosystems with Potential for Black-footed ferret Reintroduction* and re-initiation of Section 7 Consultation with FWS.

Black-tailed and White-tailed Prairie Dog

The BLM will determine the acreage of occupied black-tailed and/or white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface acres and federal mineral estate lands. Further, a reasonable effort should be made to estimate actual impacts, including habitat loss, project development will have on occupied black-tailed and white-tailed prairie dog acres within suitable mountain plover habitat over the entire project area.

Prairie dog towns on BLM lands within 0.5 miles of a specific project area will be identified, mapped, and surveyed as described in the black-footed ferret section. On an annual basis, the BLM and/or a BLM-approved operator-financed biologist will survey, at least a portion of, the prairie dog colonies, including the reference colonies. Prairie dog populations are subject to drastic population fluctuations primarily due to disease (plague). Therefore, efforts will be made to compare the data from the reference colonies with that obtained from the project areas, in order to monitor the response of prairie dog populations to project development.

Mountain Plover

Surface use is prohibited within 1/4 mile of active mountain plover nest sites. Disturbance to prairie dog towns will be avoided where possible. Any active prairie dog town occupied by mountain plover will have Controlled Surface Use between April 1 and July 31, which may be reduced to Controlled Surface Use within 1/4 mile of an active nest, once nesting has been confirmed. An exception may be granted by the authorized officer after the BLM consults with the FWS on a case-by-case basis and the operator agrees to adhere to the new operational constraints.

On federally managed surface acres, black-tailed and white-tailed prairie dog towns greater than 80 acres in size within suitable mountain plover habitat will have a no surface use stipulation from May 1 through June 15. Prior to permit approval, habitat suitability will be determined. The BLM, FWS and MFWP will estimate potential mountain plover habitat across the project area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using most current FWS mountain plover survey guidelines (FWS 2002c) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat, surveys will be conducted prior to ground disturbance activities by the BLM or a BLM-approved operator biologist, using the FWS protocol at the project area, plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to development, to be used as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing development.

The BLM shall monitor loss of mountain plover habitat associated with all portions of this action (operators will indicate the presence of prairie dog towns or other mountain plover habitat indicators on their application). Suitable mountain plover habitat has been defined under 'critical

habitat' for the mountain plover in FWS' Statewide Biological Opinion. The actual measurement of disturbed habitat will be the responsibility of the BLM or their agent (consultant, contractor, etc) with a written summary provided to the FWS' Montana Field Office, upon project completion or immediately, if the anticipated impact area is exceeded.

Sage-Grouse

Sage-grouse lek inventories will be conducted over the project area every 5 years to determine lek locations. Surveys of different areas may occur during different years with the intent the high potential project areas will be covered at least once every 5 years. Inventories and protocol will be consistent with the *Montana Sage Grouse Conservation Plan*, coordinated by the BLM and MFWP. In areas with development, aerial inventories will be conducted annually on affected sections, 3 mile buffers, and selected undeveloped reference areas. Surveys may be conducted aerially or on the ground, as deemed appropriate by the BLM and MFWP. Operator may provide financial assistance.

Reference leks, identified by BLM and MFWP, are leks located in similar habitat and within close proximity to areas currently being developed.

Aerial surveys will be used for determining lek locations. BLM, MFWP or a BLM-approved operator-financed biologist will monitor sage-grouse lek attendance within 3 miles of areas having development such that all leks on these areas are surveyed at least once every 3 years. Data collected during these surveys will be recorded on BLM and MFWP approved data sheets and entered into the approved database. An effort should also be made to compare trends of the number of males per lek to reference leks.

Sage-grouse winter use surveys of suitable winter habitat within 4 miles of a project area will be coordinated by the BLM and implemented during November through February as deemed appropriate by these agencies. Results will be provided in interim and/or annual reports. Historical information of winter sage-grouse locations will be useful in focusing efforts in areas suspected of providing winter habitat. Sage-grouse winter habitat use surveys will be conducted when suitable conditions exist.

Protection Measures

Wildlife protection measures have been put in place through lease stipulations and project design. Stipulations or mitigation that will be approved in the Final Billings RMP/EIS restrict activities are designed to reduce the likelihood of "take" of a federally listed species. For all stipulations and mitigation measures that include protection of specific habitats (e.g., sage-grouse winter habitat), identification of the specific habitat areas will be based on the best available science. This may include BLM surveys or information from other sources. For example, researchers have developed sage-grouse habitat models that should provide better information on sage-grouse habitat areas than is currently available.

Lease Stipulations and Mitigation Measures

The lease stipulations will be approved in the Final Billings RMP/EIS. These are mandatory measures or actions developed as a result of wildlife research and input from agencies and operators. Avoidance of important breeding, nesting, and seasonal habitats is the primary protection measure that will reduce the possibility of development having an impact on wildlife populations, productivity, or habitat use. Additional conservation measures will be incorporated through the Project Plan design or as Conditions of Approval. Data collected during monitoring efforts and analyzed will be used to determine the appropriateness and the effectiveness of these measures throughout the project area. Based on the results of the monitoring data, these measures will be reviewed by the *Core Team*. As monitoring data are collected over time, it is likely some protection measures will be added, while others will be modified or removed in cooperation with other agencies and the *Core Team*. All changes in these protection measures will be reported, with a justification for the change, in annual reports. An RMP amendment may be required depending on the recommended change.

Waivers, Exceptions and Modifications (WEMs)

“Waivers” A lease stipulation may be waived by the Authorized Officer if a determination is made by the BLM, in consultation with MFWP and/or FWS, that the proposed action will not adversely affect the species in question.

“Exceptions” to protection measure may be granted by the Authorized Officer, in coordination with FWS for T&E species and MFWP, if the operator submits a plan that demonstrates impacts from the proposed action will not be significant, or can be adequately mitigated.

“Modifications” may be made by the Authorized Officer if it is determined portions of the area do not include habitat protected by the stipulation.

Stipulations will be developed and approved for the following species through the Billings RMP process: Raptors, Bald Eagle, Peregrine Falcon, Big Game, Sage-Grouse, Sharp-tailed grouse, Prairie dogs, Mountain Plover, Sprague’s Pipit and associated black-footed ferret habitat, waterbird colonies, and Yellowstone cutthroat trout.

Terms and Conditions from Section 7 Consultation

In order to be exempt from the prohibitions of Section 9 of the ESA, the Bureau must comply with the following terms and conditions, which will implement the reasonable and prudent measures described and outlined in the Biological Opinion. **These terms and conditions are nondiscretionary.**

All Species

In the event, dead or injured wildlife species are located during construction and operation, the FWS, Montana Field Office, Helena, Montana (406-449-5225) will be notified within 24 hours. If the mortalities are birds, they will be collected and kept for identification by someone with an appropriate salvage permit. Also, the project areas would need to be “spot checked” by

appropriate BLM or FWS personnel to insure compliance. In no cases would operators or other workers be allowed to be in possession of migratory bird carcasses. The responsible agency must provide for monitoring the actual number of individuals taken. Because of difficulty in identification, all small birds found dead should be stored in a freezer for the FWS to identify.

The Bureau shall monitor all loss of TEC&SC habitat associated with all actions. TEC&SC habitat will be defined under "habitat use" and "critical habitat" respectively, for each species in the Biological Opinion. The actual measurement of disturbed habitat can be the responsibility of the BLM or their agent (consultant, contractor, etc.), with a written summary provided to the FWS' Montana Field Office upon project completion. The report will include the location and acres of habitat loss, field survey reports, what stipulations were applied, and a record of any variance granted to timing and/or spatial buffers. The monitoring of habitat loss for these species will commence from the date the Record of Decision (ROD) is signed. The actual measurement of disturbed habitat can be the responsibility of the Bureau's agent (consultant, contractor, etc.) with a written summary provided to the FWS' Montana Field Office semi-annually, or immediately if the Bureau determines the action (*i.e.* APD, pipeline, compressor station) will adversely affect a listed species. It is the responsibility of the Bureau to ensure the semi-annual reports are complete and filed with the FWS in a timely manner. The semi-annual report will include field survey reports for endangered, threatened, proposed and candidate species for all actions. The semi-annual reports will include all actions completed under this Biological Opinion up to 30 days prior to the reporting date. The first report will be due 6 months from the signing of the ROD and on the anniversary date of the signing of the ROD. Reporting will continue for the life of the project.

All new roads required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions. Appropriate speed limits will be adhered to on all project area roads, and operators will advise employees and contractors regarding these speed limits.

Bald Eagle

The Bureau shall require implementation of all conservation measures/mitigation measures identified in the Biological Assessment and the Biological Opinion, including the wildlife inventory, monitoring, and protection protocol identified in the WMPP. The Bureau shall monitor for compliance with the measures and protocol. They are as follows:

- The appropriate standard seasonal or year-long stipulations for raptors or no surface occupancy for bald eagles as identified in the Final Billings RMP will be applied.
- Inventory and monitoring protocol for the bald eagle will be as described for raptors, with the following additions. Operators will indicate the presence of eagle habitat as previously defined, on their application. Prior to development or construction, surveys of the wooded riparian corridors within 1.0 mile of a project area will be conducted in the winter and/or spring by BLM biologists and/or BLM-approved biologists to determine the occurrence of winter bald eagle roosts. Surveys will be conducted from daybreak to 2 hours after sunrise and/or from 2 hours before sunset to 1 hour after sunset by aircraft. Follow-up ground surveys, if necessary, will be conducted during the same time frame. Surveys will be at least 7 days apart. The

location, activity, number, and age class (immature, mature) of any bald eagles observed will be recorded and if a roost or suspected roost is identified, BLM, FWS, and MFWP will be notified and a GPS record of the roost/suspected roost will be entered into the approved database. No Surface Occupancy will be applied within 0.5 miles of any identified bald eagle roost sites.

- Nest productivity will be conducted by the BLM or a BLM approved biologist in areas with development (i.e., areas with greater than 1 well locations/section) and within 1 mile of the project area. Active nests located within one mile of project-related disturbance areas will be monitored between March 1 and mid-July to determine nesting success (i.e., number of nestlings/fledglings per nest).
- No new above-ground power line should be constructed within ½ mile of an active eagle nest or nest occupied within the recent past. No surface occupancy or use is allowed within 0.5 miles of known bald eagle nest sites which have been active within the past 5 years. All other actions will be consistent with the *Montana Bald Eagle Management Plan - July 1994*.
- Power lines will be built to standards identified by the Power Line Interaction Committee (2006) to minimize electrocution potential. The FWS has more specific recommendations that reaffirm and complement those presented in the *Suggested Practices*. It should be noted these measures vary in their effectiveness to minimize mortality, and may be modified as they are tested. Local habitat conditions should be considered in their use. The FWS does not endorse any specific product that can be used to prevent and/or minimize mortality; however, we are providing a list of Major Manufacturers of Products to Reduce Animal Interactions on Electrical Utility Facilities.

New Distribution Lines and Facilities

- The following represents areas where the raptor protection measures will be applied when designing new distribution line construction:
- Bury distribution lines where feasible.
- Raptor-safe structures (e.g., with increased conductor-conductor spacing) are to be used (i.e., minimum 60" for bald eagles would cover all species).
- Equipment installations (overhead service transformers, capacitors, reclosers, etc.) are to be made raptor safe (e.g., by insulating the bushing conductor terminations and by using covered jumper conductors).
- Jumper conductor installations (e.g., corner, tap structures, etc.) are to be made raptor safe by using covered jumpers or providing adequate separation.
- Employ covers for arrestors and cutouts.
- Lines should avoid high avian use areas such as wetlands, prairie dog towns, and grouse leks. If not avoidable, use anti-perching devices to discourage perching in sensitive habitats such as grouse leks, prairie dog towns and wetlands to decrease predation and decrease loss of avian predators to electrocution.

Modification of Existing Facilities

Raptor protection measures to be applied when retrofitting existing distribution lines in an effort to reduce raptor mortality. Problem structures may include dead ends, tap or junction poles, transformers, reclosers and capacitor banks or other structures with less than 60" between conductors or a conductor and ground. The following modifications will be made:

- Cover exposed jumpers.
- Gap any pole top ground wires.
- Isolate grounded guy wires by installing insulating link.
- On transformers, install insulated bushing covers, covered jumpers, cutout covers and arrestor covers.
- When raptor mortalities occur on existing lines and structures, raptor protection measures are to be applied (e.g., modify for raptor-safe construction, install perches, perching deterrents, nesting platforms, nest deterrent devices, etc).
- Use anti-perching devices to discourage perching in sensitive habitats such as grouse leks, prairie dog towns and wetlands to decrease predation, and decrease loss of avian predators to electrocution.
- In areas where midspan collisions are a problem, install effective line-marking devices. All transmission lines that span streams and rivers or in known or discovered raptor migration areas, should maintain proper spacing and have markers installed.
- These additional standards to minimize migratory bird mortalities associated with utility transmission lines will be incorporated into the Terms and Conditions for all APDs and stipulations for ROW applications.

Mountain Plover

The Bureau shall require implementation of the conservation measures for mountain plover as identified in the Biological Assessment dated October 2006, and the wildlife inventory, monitoring, and protection protocol addressed in the *WMPP*. The Bureau shall monitor for compliance with the measures and protocol. They are as follows:

- Surface use is prohibited within 1/4 mile of active mountain plover nest sites. Disturbance to prairie dog towns will be avoided where possible. Any active prairie dog town occupied by mountain plovers will have a Controlled Surface Use stipulation applied between April 1 and July 31. This area may be reduced to No Surface Use within 1/4 mile of an active nest once nesting has been confirmed. An exception may be granted by the authorized officer after the BLM consults with the FWS and the operator agrees to adhere to the new operational constraints.
- Due to the declining status of mountain plover in the analysis area and the need to retain the most important and limited nesting habitat, all active prairie dog colonies on federal surface within suitable mountain plover habitat will have No Surface Occupancy applied. This No Surface Occupancy may be modified through an amendment to the biological opinion after analysis of impacts to this preferred nesting habitat is completed.

- BLM will determine the acreage of occupied black-tailed and white-tailed prairie dog habitat within suitable mountain plover habitat on federally managed surface and mineral estate lands. Further, a reasonable effort should be made to estimate the actual impacts, including habitat loss, development will have on occupied black-tailed and white-tailed prairie dog acres within suitable mountain plover habitat over the entire project area. The BLM, FWS, and cooperators will develop a survey protocol that may include prioritization of subsets of the project area to be analyzed. Based on the results of such analysis, No Surface Occupancy on active prairie dog habitat within suitable mountain plover habitat may be modified utilizing an amendment to the biological opinion.
- Prior to permit approval, habitat suitability will be determined. The BLM, FWS or MFWP will estimate potential mountain plover habitat across the project area using a predictive habitat model. Over the next 5 years, information will be refined by field validation using most current FWS mountain plover survey guidelines (FWS 2002c) to determine the presence/absence of potentially suitable mountain plover habitat. In areas of suitable mountain plover habitat, surveys will be conducted prior to ground disturbance activities by the BLM or a BLM-approved biologist using the FWS protocol at a specific project area plus a 0.5 mile buffer. Efforts will be made to identify mountain plover nesting areas not subject to development as reference sites. Comparisons will be made of the trends in mountain plover nesting occupancy between these reference areas and areas experiencing project development.
- BLM shall monitor all loss of mountain plover habitat associated with this action (operators will indicate the presence of prairie dog towns or other mountain plover habitat indicators on their application). Suitable mountain plover habitat has been defined under 'critical habitat' for the mountain plover in the Biological Opinion. The actual measurement of disturbed habitat can be the responsibility of the BLM, its agent (consultant, contractor, etc) with a written summary provided to the FWS' Montana Field Office upon completion or immediately if the anticipated impact area is exceeded relative to the estimated surface disturbances defined in the SEIS.
- If suitable mountain plover habitat is present, surveys for nesting mountain plovers will be conducted prior to ground disturbance activities, if ground disturbing activities are anticipated to occur between April 10 and July 10. Disturbance occurring outside this period is permitted, but any loss of mountain plover suitable habitat must be documented. Sites must be surveyed 3 times between the April 10 and July 10 period, with each survey separated by at least 14 days. The earlier date will facilitate detection of early-breeding plovers. A disturbance-free buffer zone of 1/4 mile will be established around all mountain plover nesting locations between April 1 and July 31. If an active nest is found in the survey area, the planned activity should be delayed 37 days, or seven days post-hatching. If a brood of flightless chicks is observed, activities should be delayed at least seven days (FWS 2002). Exceptions and/or waiver to stipulations can be made by the BLM through consultation with the FWS.

- Roads will be located outside of nesting plover habitat where possible. Apply mitigation measures to reduce mountain plover mortality caused by increased vehicle traffic. Construct speed bumps, use signing or post speed limits as necessary to reduce vehicle speeds near mountain plover habitat.
- Creation of hunting perches will be minimized within ½ mile of occupied nesting areas. Utilize perch inhibitors (perch guards) to deter predator use.
- Native seed mixes will be used to re-establish short grass vegetation during reclamation.
- There will be No Surface Occupancy of ancillary facilities (e.g., compressor stations, processing plants) within 1/4 mile of known nesting areas. Variance may be granted after consultation with the FWS.
- In habitat known to be occupied by mountain plover, no dogs will be permitted at work sites to reduce the potential for harassment of plovers.
- The FWS will provide operators and the BLM with educational material illustrating and describing the mountain plover, its habitat needs, life history, threats, and development activities that may lead to incidental take of eggs, chicks, or adults. This information will be required to be posted in common areas and circulated in a memorandum among all employees and service providers.

Programmatic Guidance for the Development of Project Plans

Guidance for developing Project Plans and/or conservation measures applied as COAs provide a full range of practicable means to avoid or minimize harm to wildlife species or their habitats. Operators will minimize impacts to wildlife by incorporating applicable WMPP programmatic guidance into project plans. Not all measures may apply to each site-specific development area and means to reduce harm are not limited to those identified in the WMPP. This guidance may change over time if new conservation strategies become available for Special Status Species or if monitoring indicates the measure is not effective or unnecessary.

BLM and MFWP will work together to collect baseline information about wildlife and sensitive habitats possibly containing special status species. During the project development phase, operators will identify potentially sensitive habitats and coordinate with BLM to determine which species or habitats are of concern within or adjacent to the project area. In areas where required site-specific wildlife inventories have not been completed, operators and BLM will work cooperatively to achieve this. BLM's responsibilities under NEPA and ESA essentially are the same on split estate as they are with federal surface. BLM and operators will seek input from the private surface owner to include conservation measures in split estate situations.

The following guidance and conservation measures are considered "features" or project "design criteria" to be used during Project Plan preparation. The design of projects can incorporate conservation needs for wildlife species or measures can be added as COAs. These types of

conservation actions offer flexibility for local situations and help minimize or eliminate impacts to the species of interest.

1. Use the best available information for siting structures (e.g., storage facilities, generators and holding tanks) outside the zone of impact in important wildlife breeding, brood-rearing and winter habitat based on the following considerations:
 - a. size of the structure(s),
 - b. level/type of anticipated disturbance
 - c. life of the operation, and
 - d. extent to which impacts would be minimized by topography.
2. Concentrate energy-related facilities when practicable.
3. Encourage development in incremental stages to stagger disturbance; design schedules that include long-term strategies to localize disturbance and recovery within established zones over a staggered time frame.
4. Prioritize areas relative to their need for protection, ranging from complete protection to moderate to high levels of energy development.
5. Develop a comprehensive Project Plan for a single activities in one area or for multiple activities in one or several areas, to minimize road densities. Project Plans would be required in areas where multiple separate and distinct land disturbing activities may be taking place at different times on different schedules but under one plan. Also, these areas would typically be larger scale and longer term project proposals with potentially significant resource impacts as determined through NEPA analysis. Smaller scale projects with minimal resource impacts would not require Project Plans.
6. To reduce additional surface disturbance, existing roads and two-tracks on and adjacent to the project area will be used to the extent possible and will be upgraded as necessary.
7. Minimize stream channel disturbances and related sediment problems during construction of road and installation of stream crossing structures. Do not place erodible material into stream channels. Remove stockpiled material from high water zones. Locate temporary construction bypass roads in locations where the stream course will have minimal disturbance. Time construction activities to protect fisheries and water quality.
8. Design stream-crossings for adequate passage of fish (if potential exists). Minimize impacts on water quality and, at a minimum, the 25-year frequency runoff. Consider oversized pipe when debris loading may pose problems. Ensure sizing provides adequate length to allow for depth of road fill.
9. Use corridors to the maximum extent possible: roads, power, gas and water lines should use the same corridor whenever possible.

10. Avoid, where possible, locating roads in crucial sage-grouse breeding, nesting and wintering areas and mountain plover habitats. Develop roads utilizing topography, vegetative cover, site distance, etc. to effectively protect identified wildlife habitats.
11. Conduct all road and stream crossing construction and maintenance activities in accordance with agency approved mitigation measures and BMPs.
12. Utilize remote monitoring technologies whenever possible to reduce site visits thereby reducing wildlife disturbance and mortalities.
13. All new roads required for the proposed project will be appropriately constructed, improved, maintained, and signed to minimize potential wildlife/vehicle collisions and facilitate wildlife movement through the project area. Appropriate speed limits will be adhered to on all project area roads, and operators will advise employees and contractors regarding these speed limits.
14. Road closures may be implemented during crucial periods (e.g., extreme winter conditions, and calving/fawning seasons). Personnel will be advised to minimize stopping and exiting their vehicles in big game winter range.
15. Roads no longer required for operations or other uses will be reclaimed if required by the surface owner or surface management agency. Reclamation will be conducted as soon as practical.
16. Operator personnel and contractors will use existing state and county roads and approved access routes, unless an exception is authorized by the surface management agency.
17. Use minimal surface disturbance to install roads and pipelines. Reclaim sites of abandoned wells to restore native plant communities.
18. Reclamation of disturbed areas will be initiated as soon as practical. Native species will be used in the reclamation of important wildlife habitat. Wildlife habitat needs will be considered during seed mix formulation.
19. Locate storage facilities, generators, and holding tanks outside the line of sight and sound of important sage-grouse breeding habitat.
20. Minimize ground disturbance in sagebrush stands with documented use by sage-grouse:
 - a. breeding habitat – the lek and associated sagebrush;
 - b. nesting habitat – sagebrush within 4 miles of a lek; and
 - c. wintering habitat – sagebrush with documented winter use by sage-grouse.
21. Site new power lines and pipelines in disturbed areas wherever possible; remove overhead powerlines when use is complete.

22. Minimize the number of new overhead power lines in sage-grouse or mountain plover habitat. Use the best available information for siting powerlines in important sage-grouse breeding, brood-rearing, and winter habitat. Bury lines in sage-grouse and mountain plover habitat, when feasible.
23. Restrict timing for powerline installation to prevent disturbance during critical sage-grouse periods (breeding March 1 – June 15; winter December 1 –March 31).
24. If above ground powerline siting is required within 2 miles of important sage-grouse breeding, brood-rearing, and winter habitat, emphasize options for preventing raptor perch sites utilizing Avian Powerline Action Committee 2006 guidelines.
25. Encourage monitoring of avian mortalities by entering into a Memorandum of Understanding with FWS and the state agencies to establish procedures and policies to be employed by the parties to lessen industry's liability concerns about the "take" of migratory birds.
26. Remove unneeded structures and associated infrastructure when project is completed.
27. Restrict maintenance and related activities in sage-grouse breeding/nesting complexes; 15 March -15 June, between the hours of 4:00-8:00 am and 7:00-10:00 pm.
28. Restrict noise levels from production facilities to 50 decibels (10 dBA above background noise at the lek).
29. Restrict use of heavy equipment that exceeds 50 dBA within 2 miles of a lek from 4-8am and 7-10pm during April 1 – June 30.
30. Protect, to the extent possible, natural springs from disturbance or degradation.
31. Design and manage produced water storage impoundments so as not to degrade or inundate sage-grouse leks, nesting sites and wintering sites, prairie dog towns or other Special Status Species habitats.
32. Produced water should not be stored in shallow, closed impoundments or playas. Impoundments designed as flow through systems will lessen the likelihood selenium will bio-accumulate to levels adversely affecting other wildlife.
33. Develop offsite mitigation strategies in situations where fragmentation or degradation of Special Status Species habitat is unavoidable.
34. Protect reserve, workover, and production pits potentially hazardous to wildlife by netting and/or fencing as directed by the BLM to prevent wildlife access and minimize the potential for migratory bird mortality.

35. Reduce potential increases in poaching through employee and contractor education regarding wildlife laws. Operators should report violations to BLM and MFWP.
36. Operator employees and their contractors will be discouraged from possessing firearms while working.

Table 1. Summary of General Wildlife Reporting, Inventory, and Monitoring, Billings Resource Management Plan

Action	Dates	Responsible Entity
Project plans for outcoming years, showing general location of proposed development	Annually	Team (BLM, FWS, MFWP, operators)
Annual reports summarizing findings and presenting necessary protection measures	Annually	BLM with reviews MFWP, FWS, operators, and other interested parties
Meeting to finalize future year's inventory, monitoring, and protection measures	Annually	BLM with participation by FWS, MFWP, operators, and other interested parties
Inventory and Monitoring		
Big game use monitoring	When Applicable	BLM with assistance
Determine mountain plover habitat suitability	Prior to permit approval	BLM & operator assistance
In areas of suitable mountain plover habitat, conduct nest surveys in project area, plus a .5 mile buffer	Prior to ground disturbing activities	BLM & operator assistance
In areas of suitable mountain plover habitat, map active black-tailed prairie dog colonies on federal mineral estate.	Prior to permit approval	BLM & operator assistance
Active prairie dog colonies within .5 mile of a specific project area will be identified, mapped and surveyed	Prior to permit approval	BLM with operator assistance
Raptor nest inventories (POD areas plus 1 mile buffer; burrowing owls excluded)	Every 5 years during April and May but prior to permit approval	BLM with operator assistance
In areas with potential bald eagle winter roost sites/territories, conduct surveys within one mile of project area	Prior to ground disturbing activities	BLM & operator assistance
Conduct bald eagle nest inventories within one mile buffer of project area	Between March 1 and mid-July	BLM & operator assistance
Monitor productivity at active bald eagle nests within one mile of project-related disturbance	Between March 1 and mid-July	BLM & operator assistance
Raptor next productivity monitoring at active nests within one mile of project disturbance area	Annually March to mid-July	BLM with operator assistance
Sage-grouse lek inventories (project area plus three mile buffer)	Every 5 years	BLM with operator assistance
Sage-grouse lek attendance monitoring on and within 3miles of the POD boundary	Annually	BLM with operator assistance will visit selected leks each year so that all leks will be visited annually
Threatened, Endangered & Sensitive species inventory/monitoring within selected CBNG development areas	When Applicable	BLM with operator assistance

Table 1. Summary of General Wildlife Reporting, Inventory, and Monitoring, Billings Resource Management Plan

Action	Dates	Responsible Entity
Other wildlife species inventory/monitoring within selected CBNG development areas	When Applicable	BLM with operator assistance
Monitor high priority bat populations for White-Nose Syndrome	When applicable	BLM with assistance

Table 2. Summary of Survey and Protection Measures, for Development within the Billings Resource Management Plan

Protection Measure	Dates
Bald eagle nest surveys within 1 mile of project area	Yearlong
Bald eagle nest avoidance within 0.5 mile of active nests	No Surface Use or Occupancy
Bald Eagle Winter Roost surveys within 1 mile of project area	December 1 to April 1
Bald Eagle Winter Roost avoidance within 0.5 miles of roost site	No Surface Use or Occupancy
Black-footed ferret surveys	Prairie dog colonies > 80 acres
Mountain plover surveys within 0.5 miles of project area	May 1 to June 15
Active prairie dog colonies on federal surface in mountain plover habitat	BLM & operator assistance
Mountain plover nest/brood avoidance within .25 miles of project area	April 1 to July 31
Peregrine falcon nest avoidance within 1 mile of active nest	No Surface Use or Occupancy
Threatened, Endangered & Sensitive species surveys	As necessary
Threatened, Endangered & Sensitive species avoidance	As necessary
Big game crucial winter range avoidance	December 1 – March 31
Elk Parturition Range avoidance	April 1 – June 15
Big Horn Sheep – Powder River Breaks	No Surface Use or Occupancy
Prairie dog colony mapping and burrow density determinations	Yearlong
Raptor nest survey/inventory within 0.5 miles of project area	Yearlong
Raptor nest avoidance within 0.5 miles of active nests	March 1 – August 1

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Sage-grouse nesting habitat avoidance on areas within 4.0 miles of a lek	April 1 – June 30
Sage-grouse and sharp-tailed grouse lek avoidance within 0.6 miles of a lek	No Surface Use or Occupancy
Sharp-tailed grouse nesting habitat avoidance on areas within 2 miles of a lek	March 1 – June 15
Western burrowing owl surveys (prairie dog colonies within 0.5 miles of disturbance)	June – August
General wildlife avoidance/protection	As necessary

NOTE:

In areas of higher or more intensive development, the frequency and timing of inventory and monitoring may need to be increased or expanded to address potential resource impacts. Additional monitoring, inventory, or studies may need to be conducted on areas of development and selected undeveloped comparison or control areas.

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H.4 Requirements and/or Guidelines for Wildlife Controlled Surface Use Stipulations or Exceptions to No Surface Occupancy Stipulations

Plans that are required by controlled surface use (CSU) stipulations or exceptions to no surface occupancy stipulations for crucial winter range, greater sage-grouse habitat, bighorn sheep range, and other Special Status Species areas will be subject to the following requirements and/or guidelines. These requirements and guidelines may be modified based on the best available science and research, and best management practices.

The plan shall address:

- Mitigation or methods that would be used to abate continuous noise (related to long-term operations and/or activities) or temporary noise (related to installation, maintenance, one-time use, emergency operations, etc.) to minimize disruption to wildlife.
- The management of water developments to reduce the spread of West Nile virus within greater sage-grouse habitat areas. The placement of linear rights-of-way (ROW) to reduce disturbance to wildlife.
- The placement of new utility developments (powerlines, pipelines, etc.) and transportation routes in a manner that does not impact wildlife such as through eliminating the need for powerlines or burying powerlines.
- The design and placement of high profile structures exceeding 10 feet in height in a manner that does not impact wildlife.
- The reduction of the frequency of human visitation at wells sites such as through remote monitoring of production facilities.
- Interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes to maximize the habitat restoration.
- Restoration of disturbed areas at final reclamation to pre-disturbance conditions or desired plant community.
- Placement of permanent (longer than 2 months) structures which create movement to minimize impacts to wildlife.

The plan shall consider:

- The use of off-site mitigation, (e.g., creation of sagebrush habitat or conservation easements) with proponent dollars to offset habitat losses.
- The creation of a "*Mitigation Trust Account*" when impacts cannot be avoided, minimized, or effectively mitigated through other means. If approved by the BLM, the proponent may contribute funding to maintain habitat function based on the estimated cost of habitat treatments or other mitigation needed to maintain the functions of impacted habitats. Off-site mitigation should only be considered when no feasible options are available to adequately mitigate within and immediately adjacent to the impacted site, or when the off-site location would provide more effective mitigation of the impact than can be achieved on-site.

H.5 Crucial Areas Planning System (CAPS)

Montana Fish, Wildlife and Parks Crucial Areas Planning System User's Guide Version 1.0 –April 2010

In 2008, Montana Fish, Wildlife & Parks (MTFWP) took the lead in conducting a Crucial Areas Assessment. The Assessment evaluated the fish, wildlife and recreational resources of Montana in order to identify crucial areas and fish and wildlife corridors. The result, in part, is a Web-based **Crucial Areas Planning System (CAPS)**, a new MTFWP mapping service aimed at future planning for a variety of development and conservation purposes so fish, wildlife, and recreational resources can be considered earlier.

The Crucial Areas Planning System (CAPS) is intended to provide useful and non-regulatory information during the early planning stages of development projects, conservation opportunities, and environmental review.

CAPS is not intended to replace consultation with MTFWP staff. In cases where federally threatened or endangered species occur, CAPS does not replace a federal consultation under the Endangered Species Act.

Finest data resolution is at the square mile section scale or waterbody, and use of these data layers at a more localized scale is not appropriate and may lead to inaccurate interpretations. The classification may or may not apply to the entire section. Consult the local MTFWP biologist for more localized information.

How Data Are Used in This RMP:

CAPS data used in this RMP are from the "Big Game Winter Range Habitat" CAPS Score 1 & 2. Big game data is for the protection of big game winter ranges. Refer to maps 15-20 for a current map of habitat within the Billings Field Office.

Attached are descriptions of the assessment process used by MTFWP. In the future, changes, revisions, or elimination of this data will be coordinated and agreed upon with MTFWP.



Montana Fish, Wildlife & Parks Crucial Areas Assessment



NATIVE GAME SPECIES

Big Game Winter Range Habitat

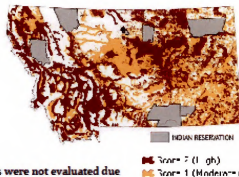
SUMMARY: This layer depicts the relative value of habitats providing big game winter range for elk, white-tailed deer, mule deer, antelope and moose.

MEASUREMENT UNIT: Public land survey sections - approximately one square mile.

MAPPING CONSIDERATIONS: Indian reservations were not evaluated due to a lack of data. National park lands are not currently represented in big game distribution layers and therefore have lower than expected values in some areas.

DATA SOURCE(S) / QUALITY:

Big Game: Metric Evaluated: Winter range habitat value. **Species:** pronghorn antelope, elk, moose, mule deer and white-tailed deer. **Data Layers:** big game distribution - publicly available for individual species, maintained by FWP. Layers are updated using expert knowledge, which includes known habitat associations and extrapolation from survey data. Resolution is based upon 1 square mile public land survey sections; Montana land cover classification - draft layer maintained by the Montana Natural Heritage Program (NHP) Spatial Analysis Lab, University of Montana. Classification based upon remote sensing. Resolution is 30 meters



METHODS: Big game habitat values were determined by assigning points based on species use and habitat quality. All winter habitat was assigned an initial score of 1 and an additional point was assigned for more highly valued areas. Following is a description areas that were assigned higher values. In the western mountains, areas identified as winter use in the species distribution layers received one point. In the Northwest (FWP Region 1) winter use of elk or white-tail deer was given an additional point. In the Southwest (FWP Regions 2 & 3), elk or mule deer was given an additional point. For the rest of the state, areas identified as winter use areas for one species received a point

and an additional point if the area was winter range for additional species. Also, sagebrush grassland habitats were used to identify important habitats in the prairie environment where winter ranges are less distinct. Areas containing >50% sagebrush grassland, received one point and areas containing >75% sagebrush grassland were given an additional point. The final summed value was rescaled to 0 to 1 before being combined with the other species categories.

DATA SOURCES

- ☐ Survey data - counts or estimates
- ☐ Survey data - categorical (e.g. presence/absence)
- ☒ Expert opinion based on observation

DATA EXTRAPOLATION TECHNIQUE USED

- ☐ None
- ☐ Modeling of habitat species associations (deductive)
- ☐ Statistical modeling (inductive)
- ☐ Extrapolation to habitat unit (e.g. stream section)
- ☒ Extrapolation based on expert opinion

Full documentation @ <http://map.mt.gov/feature/metadata/construction/action/crucialareas.html>



Montana Fish, Wildlife & Parks
Crucial Areas Assessment



FINAL CATEGORIZATION: The resulting scores ranged from 0 to 2. A score of 0 indicates the area was not identified as having winter range present. A score of 1 indicates important winter range habitats. A score of 2 indicates highly valued winter range habitats. Big game winter range was given twice the value of the other species groups for the calculation of the cumulative native game layer.

CATEGORY	PERCENT OF STATE
SCORE 2 (High)	35.6 %
SCORE 1 (Moderate)	30.0 %

CONTACT: Adam Messer, FWP – Data Services Section; 406.444.0095; amesser@mt.gov

DATE MODIFIED: April 7, 2010 – V 1.0

Full documentation @ http://ftp.mt.gov/fish/wildlife/conservation/information/crucial_areas.html

Appendix I: Land Health Standards

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I. Land Health Standards

(derived from: Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management for Montana and the Dakotas)

I.1 Preamble

Rangeland health can be defined as the degree to which the integrity of the physical and ecological processes of the rangeland ecosystems are sustained.

The capacity of rangelands to produce commodities and satisfy values on a sustained basis depends upon the internal, self-sustaining ecological processes such as soil development, nutrient cycling, energy flow, and the structure and dynamics of plant and animal communities.

Rangeland health is the minimum ecological standard, independent of the rangeland's use and how it is managed. If rangeland health is protected, a variety of uses could be appropriate for any particular rangeland.

Standards apply to rangeland health and not to the important by-products of healthy rangelands such as more fish, higher livestock weaning weights, regional social and cultural values, increased timber production, economic viability of livestock operations or higher numbers of game animals. It is sustainability of the processes, of rangeland health, that produces these social values and commodities.

The Bureau of Land Management is committed to grazing as an appropriate use of public rangelands and to maintaining healthy and productive rangelands that support stable western communities. This is a commitment that began with the Taylor Grazing Act, which reversed the decline in the health of the range, is reiterated in the Federal Land Policy Management Act that ensures public lands are managed for multiple use and guarantees grazing as an activity on the public lands.

Standards for Rangeland Health and Guidelines for Livestock Grazing Management are intended to maintain healthy and productive public rangelands that are essential to support long-term grazing and stable communities that rely on the land.

Standards apply to the health of the land. All uses of public rangeland need to be conducted in such a manner that standards are achieved. Standards are measurable levels of resource quality, condition, or function upon which management decisions are based. It is BLM's policy to achieve rangeland health standards through management of existing uses when feasible.

Standards provide the technical and scientific basis for measuring progress towards healthy productive rangelands.

Disturbance regimes such as fire, climatic events, geology, the natural and historic range of variability and the potential of the area are considered when assessing rangeland health.

Standards are not expected to recreate theoretical "pristine" rangeland conditions that may have existed before livestock grazing began. It is assumed that most areas will be grazed unless there is no way to graze them and still achieve standards or the area is dedicated to other uses such as campgrounds, mining, and cultural or historical sites, like Pompeys Pillar.

At a minimum, State or regional standards must address:

- watershed function; - nutrient cycling and energy flow; - water quality; - habitat for endangered, threatened, proposed, Candidate 1 or 2 or special status species; and - habitat quality for native plant and animal populations and communities.

Guidelines for grazing management are the types of grazing management methods and practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting standards.

Guidelines are best management practices (BMP), treatments, and techniques and implementation of range improvements that will help achieve rangeland health standards. Guidelines are flexible and are applied on site specific situations.

Field managers must determine if standards are being met, consider what factors are causing standards not to be met, and take appropriate action to deal with those factors. If livestock grazing is preventing achievement of standards, then guidelines would be applied through terms and conditions. If an area is not meeting standards due to conditions that are not related to livestock grazing then the grazing management may not need to be adjusted.

Guidelines may be adapted or changed when monitoring or other information indicates the guidelines are not effective or a better means of meeting applicable standards exist.

The new grazing regulations under 43 CFR 4180.2(e) require that minimum, state or regional guidelines developed must address a list of attributes:

- maintain or promote adequate amounts of vegetative ground cover;
- maintain or promote subsurface soil conditions;
- maintain, improve or restore riparian-wetland functions;
- maintain or promote stream channel morphology;
- maintain or promote appropriate kinds and amounts of soil organisms, plants and animals;
- promote the opportunity for seedling establishment;
- maintain, restore, enhance water quality;
- restore, maintain or enhance T&E habitat;
- restore, maintain, enhance T&E candidate and special status species habitat;

- maintain or promote native populations and their communities;
- emphasize native species in the support of ecological function; and
- only incorporate the use non-native plant species when native species are not available or are incapable of achieving proper functioning condition.

Terms and conditions of permits and leases are specific actions in the permit or lease that implement the spirit and intent of the standards and guidelines.

Terms and conditions are site specific. They are determined by an interdisciplinary team in consultation with permittees and interested parties for each individual allotment. Terms and conditions are a tool to achieve resource conditions in the standard. They are meant to be modified if monitoring data shows those terms and conditions currently being applied are not achieving desired results.

I.2 Standards for Rangeland Health

Standards are statements of physical and biological condition or degree of function required for healthy sustainable rangelands. Achieving or making significant progress towards these functions and conditions is required of all uses of public rangelands. Historical data, when available, should be utilized when assessing standards.

MILES CITY STANDARD #1: Uplands are in proper functioning condition.

This means that soils are stable and provide for the capture, storage and safe release of water appropriate to soil type, climate and landform. The amount and distribution of ground cover (i.e., litter, live and standing dead vegetation, microbiotic crusts, and rocks/gravel) for identified ecological site(s) or soil plant associations is appropriate for soil stability. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing and compaction layers below the soil surface is minimal. Ecological processes including hydrologic cycle, nutrient cycle and energy flow are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential and there is a diversity of species characteristic of and appropriate to the site.

As indicated by:

- **Physical Environment**
 - ▶ erosional flow patterns; - surface litter; - soil movement by water and wind; - infiltration; - soil crusting and surface sealing; - compaction layer; - rills; - gullies; - cover amount; and - cover distribution.
- **Biotic Environment**
 - ▶ community diversity; - community structure; - exotic plants; - photosynthesis activity; - plant status; - seed production; - recruitment; and - nutrient cycle.

MILES CITY STANDARD #2: Riparian areas and wetlands are in proper functioning condition.

This means that the functioning condition of riparian-wetland areas is a result of the interaction among geology, soil, water, and vegetation. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid flood plain development; improve flood water retention and ground water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity.

The riparian/wetland vegetation is controlling erosion, stabilizing streambanks, shading water to reduce stream temperature in the summer and provide thermal protection in the winter, stabilizing shorelines, filtering sediment, aiding flood plain development, dissipating energy, delaying floodwater, and increasing recharge of ground water where appropriate to landform. The stream channels and flood plain dissipate the energy of high water flows and transport sediment appropriate for the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity), climate, and landform. Soils support appropriate riparian-wetland vegetation, allowing water movement, filtering sediment, and storing water for later release. Stream channels are not entrenching and water levels maintain appropriate riparian/wetland species.

Riparian Areas are defined as an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

Proper functioning condition of riparian areas are Indicated by:

- Hydrologic
 - ▶ floodplain inundated in relatively frequent events;
 - ▶ amount of altered streambanks;
 - ▶ sinuosity, width/depth ratio, and gradient are in-balance with the landscape setting (i.e., landform, geology, and bioclimatic region);
 - ▶ riparian zone width; and
 - ▶ upland watershed not contributing to riparian degradation.
- Erosion Deposition
 - ▶ floodplain and channel characteristics, i.e., rocks, coarse and/or woody debris adequate to dissipate energy;
 - ▶ point bars are vegetating;
 - ▶ lateral stream movement is associated with natural sinuosity;
 - ▶ system is vertically stable;
 - ▶ stream is in-balance with water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition); and

- ▶ bare ground.
- Vegetation
 - ▶ reproduction and diverse age structure of vegetation;
 - ▶ diverse composition of vegetation;
 - ▶ species present indicate maintenance of riparian soil moisture characteristics;
 - ▶ streambank vegetation is comprised of those plants or plant communities that have deep binding root masses capable of withstanding high streamflow events;
 - ▶ utilization of trees and shrubs;
 - ▶ healthy riparian plants; and
 - ▶ adequate vegetative cover present to protect banks and dissipate energy during high flows.

MILES CITY STANDARD #3: Water quality meets Montana State standards.

This means that surface and ground water on public lands fully support designated beneficial uses described in the Montana Water Quality Standards.

As indicated by:

- dissolved oxygen concentration;
- pH;
- turbidity;
- temperature;
- fecal coliform;
- sediment;
- color;
- toxins; and
- others: ammonia, barium, boron, chlorides, chromium, cyanide, endosulfan, lindane, nitrates, phenols, phosphorus, sodium, sulfates, etc.

MILES CITY STANDARD #4: Air quality meets Montana State standards.

This means that air quality on public lands helps meet the goals set out in the State of Montana Air Quality Control Implementation Plan. Efforts will be made to limit unnecessary emissions from existing and new point or non-point sources.

Bureau of Land Management management actions or use authorizations do not contribute to air pollution that violates the quantitative or narrative Montana Air Quality Standards or contributes to deterioration of air quality in selected class areas.

As indicated by:

Section 176(c) Clean Air Act which states that activities of all Federal agencies must conform to the intent of the appropriate State Air Quality Implementation Plan and not:

- cause or contribute to any violations of ambient air quality standards;
- increase the frequency of any existing violations; and
- impede the State's progress in meeting their air quality goals.

MILES CITY STANDARD #5: Habitats are provided for healthy, productive, and diverse native plant and animal populations and communities. Habitats are improved or maintained for special status species (federally threatened, endangered, candidate or Montana species of special concern).

This means that native plant communities will be maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant lifeforms. Where native communities exist, the conversion to exotic communities after disturbance will be minimized. Management for native vegetation is a management priority. Ecological processes including hydrologic cycle and energy flow are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential and there is a diversity of species characteristic of and appropriate to the site. The environment contains all the necessary components to support viable populations of a sensitive/threatened and endangered species in a given area relative to site potential. Viable populations are wildlife or plant populations that contain an adequate number of reproductive individuals distributed on the landscape to ensure the long-term existence of the species.

As indicated by:

- plants and animals are diverse, vigorous and reproducing satisfactorily, noxious weeds are absent or insignificant in the overall plant community;
- an effective weed management program is in place;
- spatial distribution of species is suitable to ensure reproductive capability and recovery; - a variety of age classes are present (at least two age classes);
- connectivity of habitat or presence of corridors prevents habitat fragmentation
- diversity of species (including plants, animals, insects and microbes) are represented; and
- plant communities in a variety of successional stages are represented across the landscape.

This will be accomplished by allowing progression of succession in conjunction with livestock grazing.

The following table lists the number of allotments assessed to date and the number of acres by category in the planning area:

Table I-1: Rangeland Conditions

Rangelands meeting all Standards		Rangelands making significant progress toward meeting Standards		Rangelands not meeting Standards, but changes have been made		Rangelands not meeting Standards and no changes have been made		Rangelands not meeting Standards due to causes other than livestock grazing		No Assessment Completed	
Allotments	Acres*	Allotments	Acres*	Allotments	Acres	Allotment	Acres*	Allotments	Acres*	Allotments	Acres*
309	309,658	34	41,153	8	3,675	1	80	2	80	16	6,835
Figures listed below represent Land Health Standards for lands/allotments located within Priority Sage-grouse habitat											
85	194,762	12	33,251	2	1,501	0	0	0	0	3	1,135

Note:

Source: 2012 year end rangeland monitoring report.

* Due to acreage accounting differences in the PMWHR, the administrative pastures are double counted as an allotment and as part of the HMA.

I.3 Guidelines

Guidelines for grazing management are preferred or advisable approaches to grazing management practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard(s).

Guidelines are provided to maintain or improve resource conditions in upland and riparian habitats available to livestock grazing. In both riparian and upland habitats, these guidelines focus on establishing proper functioning conditions. The application of these guidelines is dependent on individual management objectives. Desired future conditions in plant communities and streambank characteristics will be determined on a case-by-case basis.

MILES CITY GUIDELINE #1:

Grazing will be managed in a manner that will maintain the proper balance between soils, water, and vegetation over time. This balance varies with location and management objectives, but acceptable levels of use can be developed that are compatible with resource objectives.

MILES CITY GUIDELINE #2:

Manage grazing to maintain watershed vegetation, biodiversity, and flood plain function. Maintain riparian vegetative cover and structure to trap and hold sediments during run-off events to rebuild streambanks, restore/recharge aquifers, and dissipate flood energy. Promote deep-rooted herbaceous vegetation to enhance streambank stability. Where potential for woody shrub species (willows, dogwood, etc.) exists, promote their growth and expansion to aid in controlling animal access to streambanks, and to provide wildlife cover.

MILES CITY GUIDELINE #3:

Pastures and allotments will be identified based on their sensitivity and suitability for livestock grazing. Unsuitable or potentially unsuitable areas may be fenced into separate management areas, or managed more intensively.

MILES CITY GUIDELINE #4:

Based on long-term monitoring, management strategies for livestock grazing will ensure that long-term resource capabilities can be sustained over time. Natural and management induced streambank alteration, end of season stubble heights, and utilization of herbaceous and woody vegetation are critical factors which must be evaluated in any grazing strategy. These considerations are essential to achieving long-term vegetation or stream channel objectives.

Where appropriate, acceptable levels of streambank alteration and herbaceous/woody utilization should be identified on a site-specific basis, and used as terms and conditions. Compatible seasons and duration of use, rest periods, stocking rates, structural facilities, and management activities can then be designed to ensure that standards are achieved.

MILES CITY GUIDELINE #5:

Frequency of grazing and extent of defoliations will be managed to promote desired plants and plant communities, based on the rate and physiological conditions of plant growth. To meet these plant growth considerations, the following could be applied: No grazing unit should be grazed for more than half the growing season of key plant species. Periods of use throughout the growing season (early, mid, late) should be alternated from year to year. Defer each field from grazing until seeds set at least once every 3 years. The season of use should be alternated from year to year to allow for regeneration of woody and herbaceous species. Stages of plant growth, length of grazing period, target utilization levels, and frequency of grazing should be used to determine when livestock are ready to be moved to another grazing unit, instead of calendar dates. Caution should be used with early spring grazing use when soils and streambanks are wet and susceptible to compaction and physical damage that occurs with animal trampling. Likewise, late summer and fall treatments in woody shrub communities can result in excessive utilization.

MILES CITY GUIDELINE #6:

Monitoring is essential to determine if management guidelines and terms and conditions are meeting standards or making significant progress towards achieving standards. Monitoring data over time shall be used to make adjustments to grazing management as needed. In monitoring standards, Bureau of Land Management will consider the impacts of all multiple uses on public rangelands.

MILES CITY GUIDELINE #7:

The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites.

MILES CITY GUIDELINE #8:

Locate new facilities (e.g., corrals, water developments) away from riparian-wetland areas.

MILES CITY GUIDELINE #9:

When provided, supplemental salt and minerals should not be placed adjacent to watering locations or in riparian-wetland areas so not to adversely impact streambank stability, riparian vegetation, water quality, or other sensitive areas. Generally, salt and minerals should be placed in upland sites to draw livestock away from watering areas or other sensitive areas and to contribute to more uniform grazing distribution.

MILES CITY GUIDELINE #10:

For guidelines for noxious weed management refer to "Guidelines for Coordinated Management of Noxious Weeds in the Greater Yellowstone Area." These guidelines provide a unified effort in developing a public awareness program; a prevention program; and a common inventory, mapping, monitoring, and reporting procedure. An overall management plan and specific action plans can be developed for logical units of land called weed management areas.

MILES CITY GUIDELINE #11:

Grazing management practices should maintain or promote the interaction of the hydrologic cycle, nutrient cycle and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.

MILES CITY GUIDELINE #12:

Livestock management should utilize management practices for livestock grazing that meet or exceed those best management practices approved by the State of Montana in order to maintain, restore or enhance water quality.

MILES CITY GUIDELINE #13:

Grazing management practices should maintain or improve habitat for federally listed threatened, endangered, and special status plants and animals.

MILES CITY GUIDELINE #14:

Grazing management practices should maintain or promote physical, ecological and biological functions and conditions to sustain native plant and animal communities.

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Appendix J: Land Tenure Adjustment

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J. Realty, Cadastral Survey, and Lands

Section 102(a)(1) of the Federal Land Policy Management Act (FLPMA) provides that Congress declares that it is the policy of the United States that... "the public lands be retained in Federal ownership, unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will serve the national interest;..."

J.1 General Information Pertaining to Land Ownership Adjustments

J.1.1 Land Exchanges

This type of real estate transaction is typically processed under the authority of the FLPMA and involves the discretionary, voluntary exchange of lands or interests in lands between the Federal government and a non-Federal party. It is required that:

Sec. 206(b) - the Federal and non-Federal lands involved be located in the same state

Sec. 206(b) - the Federal and non-Federal lands be of equal value, or in certain circumstances, approximately equal in value

Sec. 206(a) - exchanges be completed only after a finding that the public interest would be well served

In considering whether an exchange is in the public interest, the BLM policy is to give consideration to the following (43 CFR 2200.0-6):

- achieve better management of Federal lands,
- meet the needs of state and local residents and their economies, and
- secure important objectives, including but not limited to, protection of fish and wildlife habitats, cultural resources, watersheds, wilderness and aesthetic values; enhancement of recreation opportunities and public access; consolidation of lands and/or interests in lands; consolidation of split estate; expansion of communities; accommodation of land use authorizations; promotion of multiple-use values; and fulfillment of public needs.

In making the public interest determination, there needs to be a finding that: the resource values and the public objectives that the Federal lands or interests to be conveyed may serve if retained in Federal ownership are not more than the resource values of the non-Federal lands or interests and the public objectives they could serve if acquired, and the intended use of the conveyed Federal lands will not significantly conflict with established management objectives on adjacent Federal lands and Indian trust lands

J.1.2 Land Exchanges vs. Other Methods of Disposal/Acquisition

To help assure the integrity of state and local tax bases, land exchange would be the first priority for both acquisition of non-Federal land and the conveyance of Federal lands into non-Federal ownership of those parcels identified for disposal, except under the following circumstances:

1. where there is a competitive market situation and multiple entities are interested in a parcel of land, land sale may be considered, or
2. where one of the following situations apply, a disposal method other than exchange may be considered:
 - a) resolving inadvertent unauthorized use or occupancy,
 - b) providing for community expansion and development,
 - c) meeting obligations completing state indemnity selections, and
 - d) creating facilities or service for public health, safety and welfare.

J.1.3 Sales

Sales of public lands are authorized under section 203 of FLPMA and offered at not less than fair market value. Public lands determined suitable for sale are offered only on the initiative of the BLM. Such sales have to meet at least one of the following FLPMA sales criteria:

Sec. 203(a)(1) – such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another Federal department or agency; or

Sec. 203(a)(2) – such tract was acquired for a specific purpose and the tract is no longer required for that or any other Federal purpose; or

Sec. 203(a)(3) – disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in Federal ownership.

The preferred method of sale of public lands is by competitive bidding at public auction. However, modified competitive bidding may be used to protect on-going uses, to assure compatibility of the possible uses with adjacent lands, or to avoid dislocation of existing users. Direct sale may be used when the public lands offered for sale are completely surrounded by lands in one ownership with no public access, or where the lands are needed by state or local governments or non-profit corporations, or where necessary to protect existing equities in the lands or resolve inadvertent unauthorized use or occupancy.

J.1.4 Conveyance of Federally-Owned Mineral Interests – Section 209(b), FLPMA

Section 209(b) of FLPMA provides for the conveyance of mineral interests owned by the United States where the surface is or will be in non-Federal ownership. There must be a finding that: 1) there are no known mineral values in the land, or 2) that the reservation of the mineral rights in the United States is interfering with or precluding appropriate non-mineral development of the land and that such development is a more beneficial use of the land than mineral development. Such conveyance of mineral interests can only be made to the existing or proposed record owner of the surface upon payment of administrative costs and the fair market value of the interests being conveyed.

J.1.4.1 Purchases

Purchases of lands or interest in lands would be limited to cases where no practical alternatives exist, high public values would be obtained, and purchase funds are appropriated. Such actions would need to meet the acquisition criteria for the particular alternative being considered.

J.1.4.2 Methods of Acquisition

Acquisition of lands or interests in lands would be by methods such as exchange, purchase, and/or donation.

J.1.4.3 Methods of Disposal

Disposal methods to implement land ownership adjustment actions would not vary by alternative, and generally would include the following: a) exchanges b) sales c) Recreation and Public Purposes Act conveyances d) airport grants e) state indemnity grants.

Mineral patents are not considered a land ownership adjustment for the purposes of this plan.

Three adjustment categories (defined below), will be established and utilized, based on the BLM land tenure adjustment classes. These three categories are:

Category I: Lands managed in Category I – Retention would include all ACECs, WSAs, Lands with Wilderness Characteristics, archeological sites/historic districts, and lands acquired through LWCF, National Historic Trails, National Monuments or other congressionally-designated areas. Lands within Category I would not be transferred from BLM management by any method for the life of the plan.

Category II: Retention/Limited Land Ownership Adjustment (no land disposals through sale). Public lands within Category II would not be available for sale under section 203 of FLPMA. However, lands within this category could be exchanged for lands or interest in lands. Some public lands in Category II may contain resource values protected by law or policy. If actions cannot be taken to adequately mitigate impacts from disposal of those lands, those parcels would be retained.

Category III (Disposal – land ownership adjustments, including sale): These lands generally have low or unknown resource values or are isolated or fragmented from other public land ownerships making them difficult to manage. Public land parcels in this category are relatively smaller in size (typically 160 acres or less). A listing of the legal descriptions of these disposal parcels can be found at the end of this Appendix (under Legal Descriptions of Disposal Tracts by Alternative). These parcels have been found to potentially meet the sale criteria of section 203(a)(1) of FLPMA and could be made available for sale, however, exchange could have priority over disposal by FLPMA sale.

J.2 Land Ownership Adjustment Criteria

Three types of land ownership adjustment criteria will be adopted (retention, disposal, and acquisition) to provide guidance in categorizing BLM administered land, and in making decisions concerning specific actions.

J.2.1 General Criteria

1. Requirements of applicable laws, executive orders and regulations will be followed.
2. Priority will be determined by the area directly impacted and the significance of the resources in descending order of National, regional, statewide and local. Both economic and non-economic values will be considered in assessing resource significance.
3. A critical level of significance will be assigned to resource values if they are adversely impacted over an area larger than the specific tract being considered for any land ownership adjustment action.
4. Public value losses which cannot be mitigated will be assigned a higher level of significance than those which can be mitigated.
5. A higher level of significance will be assigned to public values which are associated with solving chronic management problems.

J.2.2 Retention Criteria

Lands identified in Category I (Retention) would remain in public ownership. Lands managed in Category I (Retention) would include all ACECs, WSAs, National Historic Trails, National Monuments, and other special designations, Lands with Wilderness Characteristics, archeological sites/historic districts, and lands acquired through LWCF. Lands within Category I would not be transferred from BLM management by any method for the life of the plan.

Lands identified in Category II would likely remain as BLM administered land. Although the underlying philosophy is long-term public ownership, adjustments in retention areas involving exchanges and/or sales may occur when the public interest is served. Some public lands in Category II may contain resource values protected by law or policy. If actions cannot be taken to

adequately mitigate impacts from disposal of those lands, those parcels would be retained. Considerations for retention of public lands include:

1. Areas containing moderate to high resource values and/or characteristics. These include but are not limited to:
 - ▶ Land along rivers, streams, lakes, dams, ponds, springs, and trails
 - ▶ Riparian areas, community watersheds and/or flood plains
 - ▶ Areas that contain T&E species of wildlife or aquatic or vegetation
 - ▶ Areas with special status wildlife species, or aquatic species or vegetative species
 - ▶ Important general wildlife habitat areas
 - ▶ Recreation sites and areas with high recreational values
 - ▶ Significant cultural resource sites
 - ▶ Geologic areas containing unique or rare features or formations
 - ▶ Areas with important or unique forest/woodland values (consider the value of the forest type and potential for carbon sequestration and habitat diversity).
 - ▶ Lands with vegetation characteristics that exhibit moderate or higher value carbon sequestration potential.
 - ▶ Other areas containing moderate to high resource values and/or characteristics
2. Lands with a combination of moderate to high multiple-use values which dictate retention in public ownership.
3. Areas of National environmental significance: These include but are not limited to:
 - ▶ Wilderness,
 - ▶ Wilderness Study Areas and former WSAs being studied for protective management
 - ▶ Wild & Scenic Rivers
 - ▶ National Scenic & Historic Trails and Study Trails
 - ▶ Lands containing nationally significant cultural resource sites nominated to or eligible for the National Register of Historic Places
 - ▶ National Conservation areas and National Monuments
 - ▶ Wetlands and Riparian Areas under Executive Order 11990
 - ▶ Other Congressionally Designated Areas and Study Areas
 - ▶ Areas of Critical Environmental Concern
4. Areas of National economic significance. These include but are not limited to:
 - ▶ Designated Mineral Resource Areas where disposal of the surface would unnecessarily interfere with the logical development of the mineral estate, e.g., surface minerals, coal, phosphate, known geologic structures, etc.
 - ▶ Lands containing strategic minerals needed for National defense.

5. Lands which provide public access and contain previously mentioned public values which, when considered together, warrant their retention
6. Lands used in support of National defense: These include but are not limited to U.S. Military and National Guard maneuver areas.
7. Areas where future plans will lead to further consolidation and improvement of land patterns and management efficiency.
8. Areas which the general public, state and local government consider suitable for public ownership.
9. Lands withdrawn by the BLM or other Federal agencies for which the purpose of the withdrawal remains valid and the resource uses can be managed concurrently by BLM.
10. Lands that contribute significantly to the stability of the local economy by virtue of Federal ownership.
11. Lands acquired through LWCF funding and donations.
12. Guidelines for the retention of the mineral estate are fairly well described and are mandated under FLPMA. These require that the mineral estate be reserved by the U.S. in all land disposals except in some cases where exchanges are involved. In exchanges, the mineral estate may be reserved by both parties presuming there will be no material interference with development of the mineral resource due to disposal of the surface estate. If values are equal, mineral estate title may pass with the surface estate.

J.2.3 Acquisition Criteria

The following criteria will be used to evaluate proposals which would result in the acquisition of non-Federal lands and/or interest in lands through exchange, fee purchase, donation or other transactions. Priority will be determined on the basis of multiple-use analysis. The greater the number of resource programs and public values served, the higher the priority for acquisition. All proposals will be evaluated to determine if the non-Federal lands meet any of the following specific criteria:

1. Contain moderate to high resource values and/or characteristics.
 - ▶ Land along rivers, streams, lakes, dams, ponds, springs, and trails
 - ▶ Riparian areas, community watersheds and/or flood plains
 - ▶ Areas that contain T&E species of wildlife or aquatic or vegetation
 - ▶ Areas with special status wildlife species, or aquatic species or vegetative species
 - ▶ Important general wildlife habitat areas
 - ▶ Recreation sites and areas

- ▶ Significant cultural resource sites
 - ▶ Geologic areas containing unique and/or scarce features
 - ▶ Areas with important or unique forest/woodland values (consider the value of the forest type and potential for carbon sequestration and habitat diversity).
 - ▶ Lands with vegetation characteristics that exhibit moderate or higher value carbon sequestration potential.
 - ▶ Other areas containing moderate to high resource values and/or characteristics
2. Have the potential for enhancement, manageability or investment opportunity of existing BLM administered lands, particularly lands within or adjoining special designations units (NM, NHT, ACEC, etc.).
 3. Facilitate access to BLM administered land retained for long-term public use.
 4. Enhance congressionally designated areas, rivers, or trails.
 5. Primarily focused in the "retention" areas. (Acquisition outside of retention areas may be considered if the action leads to and/or facilitates long-term needs or program objectives).
 6. Facilitate National, state and local BLM priorities or mission statement needs.
 7. Will enhance existing or future activity plans on BLM administered land.
 8. Stabilize or enhance local economies or values.
 9. Meet long-term BLM land management goals as opposed to short-term BLM land management goals.
 10. Are of sufficient size to improve use of adjoining BLM administered land or, if isolated, large enough to allow for the identified potential public land use.
 11. Allow for more diverse use, more intensive use, or a change in uses to better fulfill the Bureau's mission.
 12. Enhance the opportunity for new or emerging BLM administered land uses or values.
 13. Contribute to a wide spectrum of uses or large number of public land users.
 14. Secure for the public significant water related land interests. These interests will include lake shore, dam shore, river front, stream, and pond or spring sites.
 15. Consolidate mineral estates with surface estates to improve potential for development while improving resource management and economic values of existing BLM administered lands.
 16. Avoid the following when considering acquisition proposals:

- ▶ Acquiring lands or interests in lands that present management problems that outweigh the expected benefits of such an acquisition, including but not limited to:
 - ▶ presence of hazardous materials
 - ▶ abundance of noxious weeds
 - ▶ access situation is inadequate for managing the property for the purpose(s) for which it would be obtained, etc.
 - ▶ acquisition of small, isolated tracts
 - ▶ split estates, structures, water rights, unacceptable third party rights (outstanding rights)
 - ▶ uncertainty as to ownership, boundary location, gaps or overlaps without certainty of location

J.2.4 Access Criteria

The BLM shall endeavor to maintain existing access, provide future access, mark public access on the ground and document geospatially public access in the land tenure records system to BLM administered lands in coordination with other Federal agencies, state and local governments, and private landowners.

J.2.4.1 Specific Access Criteria

1. Obtain access to BLM administered lands in retention areas. (Acquisition of access outside of retention areas may be considered if the action leads to and/or facilitates long term needs or program objectives).
2. Protect, maintain, mark on the ground, and document geospatially existing access to BLM administered lands.
3. Manage access to BLM administered lands within BLM's multiple-use mandate.
4. Acquire access on the basis of the following considerations:

Where there are moderate to high resource values on existing BLM administered land.

Where there is public demand which is closely tied to resource values.

Access to larger blocks or parcels of BLM administered land have priority. The presence of important resource values may justify acquiring access to smaller tracts.

For those projects on BLM administered lands in which substantial public monies have been spent, and in which continuing diverse public use is expected, permanent exclusive access for the general public should be obtained. For lesser investment projects and/or those to which general public use will need to be limited, nonexclusive easements should be obtained.

Although the Bureau is not required to provide access to mineral resources, the acquisition of such access could be useful in controlling the construction of multiple and unnecessary access routes within the same general area.

Priority would be placed on acquiring easements on roads where landowners are willing to allow public access through their lands.

Priority would be placed on acquiring easements where landowners or third parties are willing to contribute to the on the ground marking, land description preparation, gathering of associated geospatial data, and documentation on BLM land tenure records system.

J.2.5 Disposal Criteria

These are lands identified for potential removal from BLM administration through transfer to other Federal agencies, or by exchange, sale or R&PP Patent to state, county or local public entities, or by exchange or sale to private entities, private groups, private organizations or individuals. Disposal decisions will be made in the public interest based upon the following criteria:

1. Widely scattered parcels which are difficult and uneconomical to manage with anything beyond minimal custodial administration and have no significant public values.
2. Lands acquired for a specific Federal purpose which are no longer required for that or any other Federal purpose.
3. Lands with high public values proper for management by other Federal agencies, or state or local governments.
4. Lands which will serve important public objectives (such as community expansion) as provided in FLPMA.
5. Small parcels of BLM administered land contiguous to National Forest land may be considered for transfer to the U.S. Forest Service through a Public Land Order. Other BLM administered land may be considered for transfer where appropriate.
6. Small parcels of BLM administered lands contiguous to State land may be considered for transfer to the State of Montana. Other BLM administered land may be considered for transfer where appropriate.
7. Lands of limited public value and no public access.
8. Lands where disposal would aid in aggregating or repositioning other BLM administered lands or land resource values in retention areas to facilitate National, state and local objectives, unless purchased with LWCF funds.
9. Lands with general unauthorized use problems, if the lands are not required for public purposes.

10. Lands with unauthorized occupancy use where permanent structures are involved.

J.2.5.1 Potential Disposal Parcels

The following lands are identified for disposal through sale under section 203(a) of FLPMA if important recreation, wildlife, watershed, threatened or endangered species habitat, and/or cultural values are not identified during an intensive inter-disciplinary review process. These lands would also be available for transfer to another agency or to local governments, as needed, to accommodate community expansion and other public purposes. Detailed information on each tract, including legal description, acreage, and rationale for categorization, is contained in the Land Tenure table below. Tracts identified from the original 1984 Billings RMP ROD (FLTFA tracts) are identified within the table.

Any federal surface managed by the BLM within the BiFO, which was not specifically evaluated in the land tenure adjustment analysis is considered to be classified as a Category II, unless they fall within the definition of Category I lands.

Under the current planning process an additional 194 tracts were analyzed for tenure adjustment criteria for a total of 331 tracts analyzed for the current RMP. Acreages are derived from Master Title Plat information or GIS shape files and are approximate. An effort has been made to ensure that the table is correct; however errors may still exist in legal description, or acreage, and will be again reviewed through detailed project level proposals.

Land Tenure Disposal Tracts By Alternative	
Alternative A*	
Legal Description Principal Meridian, Montana	Acre
T. 1 N., R. 15 E., sec. 33, SESE	40.00
T. 2 N., R. 26 E., sec. 8, NE	160.00
T. 2 N., R. 26 E., sec. 8, SW	160.00
T. 2 N., R. 26 E., sec. 10, NE	160.00
T. 2 N., R. 26 E., sec. 14, N2NE	80.00
T. 3 N., R. 25 E., sec. 26, NE, E2SW, N2SE	320.00
T. 3 N., R. 27 E., sec. 4, SW	160.00
T. 3 N., R. 27 E., sec. 18, E2	320.00
T. 3 N., R. 27 E., sec. 24, SWSE, N2SESE, SWSESE	70.00
T. 3 N., R. 28 E., sec. 2, N2NE, SENE, NENW, SESW, NESE, S2SE	320.00
T. 3 N., R. 28 E., sec. 4, NENE	40.00

Land Tenure Disposal Tracts By Alternative

Alternative A*

Legal Description Principal Meridian, Montana	Acres
T. 3 N., R. 28 E., sec. 4, NWNW	40.00
T. 3 N., R. 28 E., sec. 10, N2	320.00
T. 3 N., R. 28 E., sec. 14, SWSW	40.00
T. 4 N., R. 28 E., sec. 34, E2	320.00
T. 4 N., R. 29 E., sec. 24, W2	320.00
T. 4 N., R. 29 E., sec. 34, SWNE, W2SW, SESW, SE	320.00
T. 4 N., R. 30 E., sec. 19, lots 1, 2, 3, 4 sec. 19, E2, E2W2	583.84
T. 4 N., R. 31 E., sec. 24, NENE	40.00
T. 4 N., R. 31 E., sec. 24, E2SE	80.00
T. 4 N., R. 32 E., sec. 22, N2NW, SWNW, W2SW	200.00
T. 4 N., R. 32 E., sec. 30, lots 1, 2, 3, 4	141.96
T. 5 N., R. 33 E., sec. 32, SWNW, N2SW, SESW	160.00
T. 1 S., R. 12 E., sec. 24, NENW, S2NW, N2SW, SWSW	240.00
T. 1 S., R. 13 E., sec. 18, SESW	40.00
T. 1 S., R. 14 E., sec. 6, lot 7 sec. 6, SESW	73.74
T. 1 S., R. 14 E., sec. 6, SENW	40.00
T. 1 S., R. 14 E., sec. 8, W2NW	80.00
T. 1 S., R. 14 E., sec. 18, lots 3, 4 sec. 18, SESW	109.45
T. 1 S., R. 15 E., sec. 1, S2SENW	20.00
T. 1 S., R. 15 E., sec. 2, SENE, N2SE	120.00
T. 1 S., R. 16 E., sec. 4, SENE, NESE	80.00
T. 1 S., R. 16 E., sec. 12, lots 9, 10, 11, 12	159.62

Land Tenure Disposal Tracts By Alternative	
Alternative A*	
Legal Description Principal Meridian, Montana	Acres
T. 1 S., R. 16 E., sec. 18, NWNE, NENW	80.00
T. 1 S., R. 16 E., sec. 29, NW, E2SW, NWSE	280.00
T. 1 S., R. 17 E., sec. 29, SWSE	40.00
T. 1 S., R. 18 E., sec. 24, NWNE, NW, NWSE	240.00
T. 1 S., R. 18 E., sec. 24, SWSW	40.00
T. 1 S., R. 18 E., sec. 26, NWNW	40.00
T. 1 S., R. 18 E., sec. 26, SE	160.00
T. 1 S., R. 19 E., sec. 32, N2NE	80.00
T. 1 S., R. 25 E., sec. 25, lot 3	10.10
T. 2 S., R. 18 E., sec. 9, SESE	40.00
T. 2 S., R. 18 E., sec. 10, NESW	40.00
T. 2 S., R. 19 E., sec. 8, SENE	40.00
T. 2 S., R. 19 E., sec. 8, N2SW	80.00
T. 2 S., R. 23 E., sec. 20, N2NE	80.00
T. 3 S., R. 19 E., sec. 23, SWNE, NESW, NWSE	120.00
T. 3 S., R. 22 E., sec. 1, W2SW sec. 2, E2SE	160.00
T. 3 S., R. 22 E., sec. 9, NENE	40.00
T. 3 S., R. 22 E., sec. 10, SWNE	40.00
T. 3 S., R. 22 E., sec. 14, NESW	40.00
T. 3 S., R. 23 E., sec. 9, NWNE	40.00
T. 3 S., R. 23 E., sec. 22, S2NW	80.00
T. 4 S., R. 16 E., sec. 2, SWNW, NESW, NWSE	120.00
T. 4 S., R. 17 E., sec. 5, NESW, N2SE	120.00

Land Tenure Disposal Tracts By Alternative

Alternative A*

Legal Description Principal Meridian, Montana	Acres
T. 4 S., R. 17 E., sec. 8, SESW sec. 17, NENW, S2NW	160.00
Total	7,528.71
*Denotes 1984 RMP ROD (FLTFA tracts)	

Land Tenure Disposal Tracts By Alternative

Alternative B

Legal Description Principal Meridian, Montana	Acres
T. 10 N., R. 13 E., sec. 21, lots 7, 9 sec. 25, lots 1, 2, 3 sec. 26, lots 1, 2 sec. 27, lots 4, 5, 6, 7 sec. 31, lots 8, 9 sec. 34, lots 5, 6, 7, 8, 9	49.89
Total	49.89

Land Tenure Disposal Tracts By Alternative

Alternative C

Legal Description Principal Meridian, Montana	Acres
T. 1 N., R. 15 E., sec. 33, SESE	40.00
T. 1 N., R. 16 E., sec. 14, N2NW	80.00
T. 2 N., R. 13 E., sec. 34, SWSW	40.00
T. 2 N., R. 15 E., sec. 20, NWNW	40.00
T. 2 N., R. 16 E., sec. 4, SWSW	40.00
T. 2 N., R. 17 E., sec. 22, NENE	40.00
T. 2 N., R. 17 E., sec. 24, NWNW	40.00
T. 2 N., R. 17 E., sec. 30, lots 3, 4 sec. 30, NESW	77.70

Land Tenure Disposal Tracts By Alternative

Alternative C

Legal Description Principal Meridian, Montana	Acres
T. 2 N., R. 29 E., sec. 9, NENE	40.00
T. 3 N., R. 14 E., sec. 20, lot 5	40.15
T. 3 N., R. 16 E., sec. 20, N2NE	80.00
T. 3 N., R. 16 E., sec. 22, NESE	40.00
T. 3 N., R. 16 E., sec. 30, SESE	40.00
T. 4 N., R. 16 E., sec. 32, W2NW	80.00
T. 4 N., R. 17 E., sec. 26, NENE	40.00
T. 4 N., R. 19 E., sec. 2, SESW	40.00
T. 4 N., R. 19 E., sec. 8, NWNW	40.00
T. 4 N., R. 32 E., sec. 10, NE	80.00
T. 5 N., R. 14 E., sec. 8, SWSE	40.00
T. 5 N., R. 16 E., sec. 20, SWNE	40.00
T. 6 N., R. 13 E., sec. 2, SESE	40.00
T. 6 N., R. 13 E., sec. 10, NENE	40.00
T. 6 N., R. 13 E., sec. 10, SWNW	40.00
T. 6 N., R. 13 E., sec. 14, NENW	40.00
T. 6 N., R. 14 E., sec. 22, S2SW	80.00
T. 6 N., R. 20 E., sec. 24, S2N2	160.00
T. 7 N., R. 14 E., sec. 24, SWSW	40.00
T. 8 N., R. 17 E., sec. 4, NWSE	40.00
T. 9 N., R. 12 E., sec. 12, NENW	40.00

Land Tenure Disposal Tracts By Alternative

Alternative C

Legal Description Principal Meridian, Montana	Acres
T. 10 N., R. 13 E., sec. 21, lots 7, 9 sec. 25, lots 1, 2, 3 sec. 26, lots 1, 2 sec. 27, lots 4, 5, 6, 7 sec. 31, lots 8, 9 sec. 34, lots 5, 6, 7, 8, 9	49.89
T. 10 N., R. 14 E., sec. 6, lot 2 sec. 6, SWNE	79.07
T. 10 N., R. 15 E., Sec. 8, SWSW	40.00
T. 10 N., R. 17 E., sec. 34, SESW	40.00
T. 1 S., R. 14 E., sec. 12, NESW	40.00
T. 1 S., R. 14 E., sec. 23, SWNE	40.00
T. 1 S., R. 14 E., sec. 26, NWNE	40.00
T. 1 S., R. 15 E., sec. 2, SENE, N2SE	120.00
T. 1 S., R. 15 E., sec. 6, lot 7	32.43
T. 1 S., R. 15 E., sec. 6, NESW	40.00
T. 1 S., R. 15 E., sec. 9, SWSE, SESW	80.00
T. 1 S., R. 15 E., sec. 18, lot 3	33.52
T. 1 S., R. 15 E., sec. 18, SENE	40.00
T. 1 S., R. 15 E., sec. 21, NESW	40.00
T. 1 S., R. 15 E., sec. 23, E2SW	80.00
T. 1 S., R. 15 E., sec. 27, S2SE	80.00
T. 1 S., R. 15 E., sec. 33, S2SW	80.00
T. 1 S., R. 16 E., sec. 4, SENE, NESE	80.00
T. 1 S., R. 16 E., sec. 18, NWNE, NENW	80.00
T. 1 S., R. 17 E., sec. 29, SWSE	40.00
T. 1 S., R. 17 E., sec. 31, lot 1	34.31

Land Tenure Disposal Tracts By Alternative	
Alternative C	
Legal Description Principal Meridian, Montana	Acres
T. 1 S., R. 18 E., sec. 24, SWSW	40.00
T. 1 S., R. 18 E., sec. 26, NWNW	40.00
T. 2 S., R. 13 E., sec. 14, NWNE	40.00
T. 2 S., R. 13 E., sec. 21, SWNW	40.00
T. 2 S., R. 13 E., sec. 34, NENW	40.00
T. 2 S., R. 13 E., sec. 34, NWSE	40.00
T. 2 S., R. 15 E., sec. 2, NWSE	40.00
T. 2 S., R. 15 E., sec. 3, SESW	40.00
T. 2 S., R. 15 E., sec. 4, SESE	40.00
T. 2 S., R. 15 E., sec. 11, NWNW	40.00
T. 2 S., R. 16 E., sec. 10, NWNW	40.00
T. 2 S., R. 16 E., sec. 12, SESW	40.00
T. 2 S., R. 16 E., sec. 17, N2SW	80.00
T. 2 S., R. 16 E., sec. 20, NESE	40.00
T. 2 S., R. 17 E., sec. 10, SWSW	40.00
T. 2 S., R. 17 E., sec. 24, SWSW	40.00
T. 2 S., R. 17 E., sec. 28, SWNW	40.00
T. 2 S., R. 17 E., sec. 30, lot 2	36.55
T. 2 S., R. 18 E., sec. 9, SESE	40.00
T. 2 S., R. 18 E., sec. 10, NESW	40.00
T. 2 S., R. 23 E., sec. 20, N2NE	80.00
T. 3 S., R. 22 E., sec. 1, W2SW sec. 2, E2SE	160.00
T. 3 S., R. 22 E., sec. 10, SWNE	40.00

Land Tenure Disposal Tracts By Alternative

Alternative C

Legal Description Principal Meridian, Montana	Acres
T. 3 S., R. 22 E., sec. 14, NESW	40.00
T. 3 S., R. 23 E., sec. 22, S2NW	80.00
T. 4 S., R. 15 E., sec. 31, SESE	40.00
T. 4 S., R. 19 E., sec. 35, SENE	40.00
T. 4 S., R. 20 E., sec. 12, SENW	40.00
T. 4 S., R. 21 E., sec. 28, NWNE	40.00
T. 4 S., R. 23 E., sec. 6, lot 3	39.87
T. 5 S., R. 19 E., sec. 5, SESE	40.00
T. 5 S., R. 20 E., sec. 6, SWSE	40.00
Total	4,223.49
*Denotes 1984 Billings RMP ROD (FLTA tracts)	

Land Tenure Disposal Tracts By Alternative

Alternative D

Legal Description Principal Meridian, Montana	Acres
T. 4 S., R. 19 E., sec. 35, SENE	40.00
T. 5 S., R. 19 E., sec. 5, SESE	40.00
T. 5 S., R. 20 E., sec. 6, SWSE	40.00
T. 10 N., R. 13 E., sec. 21, lots 7, 9 sec. 25, lots 1, 2, 3 sec. 26, lots 1, 2 sec. 27, lots 4, 5, 6, 7 sec. 31, lots 8, 9 sec. 34, lots 5, 6, 7, 8, 9	49.89
Total	169.89
*Denotes 1984 Billings RMP ROD (FLTA tracts)	

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Appendix K:
Lands with Wilderness Characteristics

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K. Lands with Wilderness Characteristics

K.1 Background

In an increasingly developed world, public lands with wilderness characteristics (as defined in the Wilderness Act, 16 U.S.C. 1131 (C)) provide social, cultural, economic, scientific, and ecological benefits for present and future generations. Many of America's most treasured landscapes include public lands with wilderness characteristics that provide visitors with rare opportunities for solitude and personal reflection. In addition, many of these lands have culturally significant and sacred sites important to native tribes. Many people and communities value these lands for hunting and fishing, observing wildlife, hiking, and other non-motorized and non-mechanized recreational uses. Lands with Wilderness characteristics are also important for their scientific, cultural and historic objects, which further our understanding of human and natural history, the functions of healthy ecosystems, and how human activities change our world. They also provide a variety of valuable ecosystem services, including carbon sequestration, watershed protection, and air purification, and may contain habitat for numerous threatened and endangered species and other rare biological resources worthy of protection. Managing an area to protect its wilderness characteristics provides unique opportunities and benefits for present and future generations that may otherwise be irreparably lost.

Management of this resource is thus a high priority for the BLM, and the natural state of such lands should be protected to the extent possible, consistent with the BLM's planning and management authorities and its multiple-use mission. The BLM shall protect Lands with Wilderness Characteristics (LWCs) when undertaking land use planning and when making project-level decisions by avoiding impairment of their wilderness characteristics unless the BLM concludes, as part of its decision-making process, that impairment of wilderness characteristics is appropriate and consistent with applicable requirements of law and other resource management considerations. Where the BLM concludes that authorization of uses that may impair wilderness characteristics is appropriate, the BLM shall document the reasons for its determination and consider measures to minimize impacts on those wilderness characteristics. Where the BLM concludes that protection of wilderness characteristics is appropriate, the BLM shall protect the wilderness resources through land use planning.

K.2 Purpose and Authority

Principal authorities affecting the consideration of LWCs in the planning process are:

- A. The Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701 *et seq.* (FLPMA), exclusive of 43 U.S.C. 1782. FLPMA specifically states that preserving and protecting certain public lands in their natural condition is part of the BLM's mission. See 43 U.S.C. 1701(a)(8). FLPMA provides direction for inventories in Sections 102(a)(2), 201(a), and 202(c)(4) and (9), and land use planning in Section 202. These sections direct the BLM to prepare and maintain an inventory of all public lands and their resources and values. These sections also direct the Bureau to rely, to the extent available, on inventory information in the development of land use plans.

- B. The Wilderness Act of 1964, 16 U.S.C. 1131 *et seq.*
- C. National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq.* (NEPA)
- D. Naval Petroleum Reserves Production Act of 1976, 42 U.S.C. 6501 *et seq.* (NPRPA)
- E. Alaska National Interest Lands Conservation Act (ANILCA), Section 1320, 43 U.S.C. 1784
- F. Council on Environmental Quality (CEQ) Regulations, 40 CFR 1500-1508
- G. BLM Regulations, 43 CFR 1601-1610, 43 CFR 2360.0-1 *et seq.*
- H. Department of the Interior (DOI) NEPA Regulations, 43 CFR Parts 46.
- I. BLM Manuals 6310 (Inventory Process) and 6320 (Planning Process).

K.3 Process

Regardless of past inventory, the BLM must maintain, i.e. keep current, an inventory of the wilderness resource on public lands. Keeping an inventory current requires gathering information and preparing a permanent file for any new inventory. It is essential that an adequate record of the inventory and subsequent updates be maintained that documents inventory findings, including relevant narratives, maps, photographs, citizen information, and any other relevant information. The wilderness inventory may need to be updated when:

1. The public or the BLM identifies wilderness characteristics as an issue during scoping in a National Environmental Policy Act (NEPA) analysis;
2. An RMP is being developed or an amendment or revision is being initiated;
3. The BLM has new information concerning resource conditions, including where the public has submitted new wilderness characteristics information that meets the BLM's minimum threshold.
4. The BLM has determined that the land appears to have wilderness characteristics and a proposed project may impair those apparent characteristics; or
5. Additional lands are acquired

The BLM must document the existing conditions as opposed to potential conditions that may result from a future planning decision. Where inventory data exists, a team familiar with the area may conduct much of the inventory using available information (e.g., existing maps and photos) and field checking as necessary. The wilderness inventory process directive does not mean that the BLM must conduct a completely new inventory and disregard the inventory information that it already has for a particular area. Rather, the BLM must ensure that its current inventory is updated with appropriate information to conform to FLPMA and BLM Manuals 6310 and 6320.

When citizen information regarding wilderness characteristics is received, BLM staff will document the submitted materials including: date of submission; name of proponent; name of proposal and/or area identified by the proponent; BLM District(s) and Field Office(s) affected; type of material submitted (e.g., narrative, map, photo); and, whether or not the public information meets the minimum standard for further review by BLM.

The minimum standard that citizen information must meet in order for BLM to consider the information during a wilderness inventory update process requires a submission of the following information to BLM: (a) a map of sufficient detail adequate to determine specific boundaries of the area in question; (b) a detailed narrative that describes the wilderness characteristics of the area and documents show that information significantly differs from the information in prior inventories conducted by BLM regarding the wilderness values of the area; and, (c) photographic documentation.

When citizen information regarding wilderness characteristics meets the minimum standard for further review, as soon as practicable, the BLM staff will evaluate the information regarding the validity of proposed boundaries of the area(s), the existence of roads and other boundary features, the size of the area(s), and the presence or absence of wilderness characteristics. This evaluation may be based on relevant information available in the office (prior BLM inventories, interdisciplinary team knowledge, aerial photographs, field observations, maps, etc.). Field checking may also be needed. BLM Staff will compare existing BLM knowledge with the submitted information and determine if the conclusion reached in previous BLM inventories remains valid, and will document the findings. These findings will be available to the public and BLM will retain a record of the evaluation and findings as evidence of BLM's consideration.

When the BLM confirms that LWCs exist, BLM Manual 6320 establishes the BLM's policy on considering LWCs in land use plans, land use plan amendments or revisions, and management of LWCs as administratively designated Wild Lands. The guidance also establishes the BLM's policy for considering project-level decisions in areas that have not yet been inventoried and analyzed consistent with the new policy described in BLM Manual 6310.

K.4 Unit Descriptions and Evaluation Summary

A total of 13 separate units, some with multiple tracts, were identified as initially meeting the criteria identified in BLM Manual 6310. These units are identified below and evaluated. Some additional areas were identified as possibly meeting the size criteria, but it was readily apparent to the BLM staff that they are bisected by obvious roads and were thus not evaluated further. However, when any doubt existed, the staff reviewed the area.

K.4.1 Pryor Mountain Unit

K.4.1.1 Prior Review:

Tract 1 is approximately 2,873 acres in size. This parcel is separated from The Pryor Mountains WSA by an established road (Sykes Ridge Road) but is adjacent to the Big Horn Tack-On WSA to the south and lands administratively endorsed for wilderness designation by the NPS in the Bighorn Canyon National Recreation Area to the southeast. Private lands form the northern

boundary and the west boundary is a combination of a vehicle road, private lands and Custer National Forest lands. Previously it was a separate parcel of the Big Horn Tack-On Study Area since it was isolated by a Montana State land parcel. The other portion of the Study Area was designated as the Big Horn WSA. The state land was subsequently acquired and the Tract is now contiguous with the WSA.

Tract 2 is approximately 497 acres in size. It is adjacent to the Pryor Mountains WSA to the west, south, and north, while the Sykes Ridge road forms the boundary to the east.

Tract 3 is approximately 143 acres in size. It is adjacent to the Big Horn Tack-On WSA on the north, east, and south sides. The west side is the Sykes Ridge road. It is separated from Tract 2 by the road and together they compose a section of land which was formally Montana State lands. They were not previously inventoried for wilderness character since they were acquired after the inventory effort. They were subsequently recommended for potential wilderness designation in the *Montana Statewide Wilderness Study Report* (1991) and were noted as being outside the WSA.

Tract 4 is approximately 445 acres in size. It is adjacent to the Pryor Mountains WSA to the west, south, and north, while the road forms the boundary to the east. It was initially dropped from wilderness consideration and not included in either the Pryor Mountain or the Big Horn Tack-On WSAs due to the human use pattern at the time, although it was recommended for possible wilderness designation in the *Montana Statewide Wilderness Study Report* (1991).

Tract 5 is an irregular shape and the boundary is formed by a combination of vehicle routes and a ROW. It is approximately 512 acres in size with 224 acres in Wyoming and 288 acres in Montana. The Pryor Mountains WSA is located to the west and the Big Horn Tack-on WSA is located to the east. It was initially unclear whether the two routes were roads or trails or a combination of both. The lands were not included in either WSA, although it was recommended for possible wilderness designation in the *Montana Statewide Wilderness Study Report* (1991).

Tract 6 is located adjacent to the Pryor Mountains WSA to its north. It is approximately 1,074 acres in size and is completely within Wyoming. The boundary is either a county maintained road or a Power Line ROW to the south, east, and west. The lands were inventoried in the initial effort and human activities at the time were noted as being intrusive and not of a primitive type. These activities were considered to have reduced the level of solitude to less than an outstanding level.

Tract 7, approximately 327 acres in size, was previously inventoried and the effort at that time identified several human improvements which were substantially noticeable, including vehicle routes and a fence line along the boundary.

Tract 8, approximately 269 acres in size, was found to have extensive evidence of uranium exploration and development located throughout the Tract. This included tailings piles, access roads, etc., and the lands were found to not possess wilderness character.

K.4.1.2 Unit Analysis:

The Pryor Mountains range in elevation from around 8,480 feet in the north end down to around 3,780 feet in the southeastern end of the range.

The upper elevations of the Pryor Mountains are characterized by patches of Douglas fir, particularly on the north slopes, with occasional open parks.

Understory is generally sparse in the dense Douglas fir stands. Shrub species include snowberry, ninebark, spirea, and juniper. Limber pine is also present, along with bluebunch wheat grass, needle-and-thread grass, bluegrasses, forbs, and sedges. In the open, unforested areas, vegetation is composed primarily of shrubs and grasses. Big sagebrush and shrubby cinquefoil are the dominant shrubs. Grasses include mountain brome, Kentucky bluegrass, and bluebunch wheatgrass. Common forbs are balsam root, geranium, and Eriogonum.

The mid elevations of the Pryor Mountains consist mostly of mountain shrubs. Utah juniper occupies the upper elevations gradually blending into mountain mahogany and eventually into big sagebrush. Black sage, rabbitbrush, and skunkbrush sumac may also be present along with bluebunch wheatgrass, needle-and-thread grass, three-awn, and sandberg bluegrass.

The red desert/saltshrub occurs on the lower slopes of the Pryor Mountains. Vegetation is generally sparse and scattered. Saltbushes of the *Atriplex* genus compose the majority of the vegetation.

There is no commercial timber harvest on the lands.

There is no licensed livestock use.

There are no active oil and gas leases.

All of the lands are within the Pryor Mountain Wild Horse Range (PMWHR): however, since the management plan for the PMWHR was written with possible wilderness designation in mind, very little wilderness conflict exists with management of the wild horse range. The PMWHR was established by an Act of Congress in 1968.

Tract 1: There is extensive evidence of uranium exploration located throughout the Tract. This includes tailings piles, access roads, etc. The presence of these impacts was noted in the initial WSA inventory and the lands were found to not possess wilderness character. Although time has passed, these impacts have not significantly reduced naturally or have not been rehabbed manually.

Tract 3: The Crooked Creek National Natural Area covers a portion of this land. This area provides significant fossil evidence of Early Cretaceous terrestrial fossil vertebrates and is one of only two known areas representing this period of life on the North American continent. It has produced eight new species and three new genera of dinosaurs. It was established in 1966.

K.4.1.3 Finding:

The lands are primarily in a natural condition, with a few, mostly well screened intrusions. Topography and vegetation screen these intrusions, which are mostly located adjacent to the designated road network and not in the interior of the Tracts.

Tract 1: A historical site, Pen's Cabin, is located in T. 8 S., R. 28 E., section 7. Pen's cabin was built about 1925. This site is a popular recreation attraction and the localized area is not in a natural condition due to human impacts from dispersed camping. There are two communication sites located on T. 8 S., R. 28 E., Section 6 and T. 8 S., R. 28 E., Section 21. These localized sites are not in a natural condition, but the rest of the Tract is. The total impact area is approximately 10 acres.

Tract 2: The lands are in a natural condition. The terrain and vegetation along Sykes Ridge road does not lend itself to cross-country OHV use or dispersed camping. There is a user-created foot trail leading to Frog's Fault Cave, which is only a short distance from the road. It attracts recreational use of an unknown level.

Tract 3: The lands are in a natural condition. The terrain and vegetation along Sykes Ridge road does not lend itself to cross-country OHV use. There are several wide spots along the road where vehicles park for scenic views or use as pull outs for opposing traffic but these are not major intrusions into the Tract and some are rehabbing naturally. None of these routes were evaluated by the BLM.

Tract 4: BLM has determined that both vehicle routes used as boundaries meet the classification of a road, and that the parcel is isolated from either WSA. Accordingly, these lands do not meet the size criteria for evaluation and lack wilderness character. See the Road Analysis Forms for details. This Tract will not be evaluated further since it does not meet the stand-alone size criteria.

Tract 5: BLM has determined that a portion of Tract 5 is isolated from the rest of the Tract by a vehicle route which is classified as a road. This portion of the Tract is approximately 46 acres in size and is located in portions of T. 58 N., R. 95 W., Sections 22, 23, and 26. Although it has been recommended for wilderness designation (BLM Montana Statewide Wilderness Study Report, 1991), this portion of Tract will not be evaluated further since it does not meet the stand-alone size criteria.

Tract 6: The BLM closed the sole vehicle route identified during the initial inventory when the 1984 Billings RMP was signed. It has since naturally rehabbed and is not substantially noticeable. The electrical power line noted as an intrusion was used as a portion of the boundary in this effort and was not included in the area under consideration. The evidence of uranium exploration was determined to be minor in scale and size and is not substantially noticeable due to its location in the remote and generally untraveled interior of the Tract. Cattle are no longer grazed in the area. The natural condition of the landscape has improved from what was earlier observed since human use trends have changed through time and the lands are now in a natural condition.

Tract 7: The initial inventory identified several human improvements which were substantially noticeable, including vehicle routes and a fence line along the boundary. These impacts have been reduced or removed. The vehicle routes have naturally rehabbed after closure in the RMP of 1984. The land condition has improved and the lands are now in a natural condition.

Tract 8: There is extensive evidence of uranium exploration located throughout the Tract. This includes tailings piles, access roads, etc. The presence of these impacts was noted in the initial WSA inventory and the lands were found to not possess wilderness character. Although time has passed, these impacts have not significantly reduced naturally or have not been rehabbed manually. The east boundary was set along aliquot parts, an artificial boundary, but an attempt at using natural features and human impact boundaries was determined to be too difficult to manage. This Tract is not in a natural condition and the initial conclusions are still appropriate. The Tract will not be evaluated further.

K.4.2 Dry Creek Unit

K.4.2.1 Prior Review:

The unit was originally inventoried as Dry Creek (MT-067-200) in the earlier inventory and the new inventory has the same boundaries. The unit is characterized by rolling landforms which gently rise towards the west and it contains scattered trees in only its western portion. The rest of the unit is grasslands and sage. The area is mountain foothills, with vegetation being a pale green and the soils are a grey gumbo clay with a few minimal light tan shale outcropping. Most drainages on the east side are configured such that they lead directly toward a State Highway.

K.4.2.2 Unit Analysis:

The unit covers approximately 6,425 acres of public lands. The entire unit is grazed commercially under permit from BLM and there are at least 5 miles of existing range fence, one spring development, and a stock tank. There are approximately 6 miles of vehicle routes which are mostly used for rangeland management. These routes are not classified as roads by BLM. A natural gas pipeline with a ROW crosses the extreme northeast corner of the unit and isolates a small portion of the lands from the rest of the unit. For recreational purposes the area does attract some upland bird hunting and horseback riding, and although use levels are not known, they are estimated to be low due to lack of cover and browse for wildlife.

K.4.2.3 Finding:

The unit is essentially in a natural condition, with the exception of the area where the ROW is located. The unit landscape is such that all the drainages in the southern third open to the State Highway. The central and eastern portions of the unit have little tree cover or extensive topographic screening. The highest level of solitude is possible in Sections 31 and 32, where even in this area there is limited vegetative cover. The unit does not have a high level of solitude, let alone an outstanding level. While the expectation of meeting anyone in the unit is low, the opportunity for an outstanding recreational experience is also low since there is almost no

attraction value. No supplemental values were identified. The lands do not meet the wilderness characteristic criteria and will not be evaluated further.

K.4.3 Deer Mountain Unit

K.4.3.1 Prior Review:

The unit was originally inventoried in the earlier effort as Deer Mountain, (MT-067-201). It had the same boundaries. The unit is formed by a single, narrow north-south ridgeline sparsely vegetated by conifers along the summit spine of the ridge and in the draws. The ridgeline drops off sharply to the east.

This unit was studied in the initial and intensive phases of the earlier Wilderness inventory and was dropped from further consideration at the end of the inventory.

K.4.3.2 Unit Analysis:

The unit is approximately 9,496 acres in size. This type of landform is known as a "Cuesta Scarp". The geological feature is a supplemental feature in the unit.

There is a pipeline ROW in the southern region which bisects the unit into two separate units.

There are possibly other pipelines as well. Several additional developments are proposed and in the process of being evaluated and processed.

The narrow configuration of the unit hinders an expectation of solitude since any traffic can be heard from many points, even though timber does reduce some impact.

K.4.3.3 Finding:

The pipeline ROW bisects the unit into two smaller portions, neither of which meets the size criteria by themselves. The lands will not be evaluated further.

K.4.4 Bear Creek Unit

K.4.4.1 Prior Review:

Originally this unit was inventoried as Bear Creek Unit (MT-067-204). From flat prairie on the west and north, Bear Creek rises to low bentonite domes and ridges in the center section. The only vegetation in the unit is sparse range grasses, sagebrush, and scrub timber.

The unit is bordered by Bear Canyon road and a parcel of Montana State lands on the north, Gyp Springs road on the east, Blue Wash Road on the northeast, and the Montana/Wyoming border on the south.

This unit was dropped following the intensive inventory phase when it was found to lack naturalness due to extensive human impacts, mostly from mineral exploration and development

occurring on much of the area. It was also noted that the level of solitude was low and the opportunity for primitive recreation was mostly adversely impacted by other human activities.

K.4.4.2 Unit Analysis:

The unit is approximately 8,930 acres in size. The BLM established the Petroglyph Canyon ACEC for protection of the petroglyphs found on the rock formations in the area. Although use levels are low, the area does attract both commercial and casual primitive recreation (for viewing the rock art) and semi-primitive recreation (OHV touring – transiting from Wyoming to the higher elevations in the Pryors. The unit is heavily impacted along the southern and western boundaries by past and present bentonite mining operations. The majority of the documented vehicle routes are not receiving regular and continuous use. There are range improvements but they are not substantially noticeable.

K.4.4.3 Finding:

Having approximately 8,930 acres, the unit meets the size criteria. The western region and the southern region along the private land boundary are not in a natural condition due to human impacts, both historical and ongoing. Only the central and eastern regions are in a natural condition. There are outstanding levels of solitude present based on the configuration and size of the unit, as well as its actual use levels. There are outstanding opportunities for primitive recreation and a portion of the area (the ACEC) is being actively marketed as a destination. There are special features present in the unit as well (the ACEC resources).

The BLM staff has determined that it is practical to establish an alternative boundary which excludes the existing impacts along the southern boundary and the western region while still meeting the size criteria. This boundary uses a point-to-point line from a Montana State land parcel corner (Section 16) to the corner point common to Sections 19, 20, 29 and 30, which results in an area of approximately 5,659 acres having wilderness characteristics and two portions totaling approximately 3,271 acres lacking wilderness characteristics.

K.4.5 Burnt Timber Canyon Unit

K.4.5.1 Prior Review:

Originally inventoried in 1979 as portions of the Burnt Timber Unit (MT 067-205), this unit was initially dropped in the Final Inventory Decision of 1980, but due to protests received by BLM during the public comment period, was subsequently reviewed further. Ultimately these portions were not part of the Unit which was established as the Burnt Timber WSA in 1991 due to the existence of uranium mining claims and a BLM enclosure, vehicle routes, a horse trap, and several other human impacts in the vicinity of Demi-John Flat, which is a flat and open bench on the west side of the WSA and other areas along the WSA boundary on the east side.

K.4.5.2 Unit Analysis:

The area is approximately 7,204 acres in size and divided into two separate parcels. The area has not seen further mining development since the prior inventory. The BLM facilities noted in the

initial inventory have been removed. Several minor ways evaluated in the initial inventory are naturally rehabbing and essentially no longer usable.

Tract 1, approximately 1,816 acres in size, is separated from the Pryor Mountains WSA by a maintained road. It is adjacent to the Burnt Timber WSA on its east side. The west boundary is a combination of private lands and the WSA boundary, which is a primitive vehicle route. The route is naturally rehabbing and essentially unusable. There are mining impacts including test pits and some routes which are still readily visible to a casual observer since they are in the foreground in the viewshed. The BLM has a new wildlife guzzler and conducts regular vehicle access to maintain it.

Tract 2, approximately 5,388 acres in size, is adjacent to the Burnt Timber WSA to the west. It is bordered on the west by a road, on the south by the Montana/Wyoming border, and on the east side by a combination of private lands, a road, and a minor and primitive vehicle route, which is naturally rehabbing and not usable. Although the lands are within a BLM grazing allotment, no use has occurred for a number of years. Commercial Range operators do trail cattle along the unit boundary road between the lower elevation private lands to the south and the Forest Service lands further north.

K.4.5.3 Finding:

Tract 1 still has visible evidence of human impacts and is not in a natural condition, although overall the condition has improved from the previous inventory. The BLM has new facilities which will have motorized access use and which have a localized impact. The area does offer solitude and primitive recreation opportunities, when considered with the adjacent WSA. This area is not in a condition for further evaluation at this time, although management actions may improve its condition in the future and warrant a new evaluation.

Tract 2 is in a natural condition, and its size and configuration, together with its topography and vegetation, offers both outstanding primitive recreation opportunity and solitude. There are supplemental features present as well.

K.4.6 Weatherman Draw Unit

K.4.6.1 Prior Review:

Originally inventoried in 1979 as Weatherman Draw, (MT-067-202), approximately half the unit is covered with timber and the remainder is grasslands, interspersed with sagebrush. The unit consists of rolling hills of 3,600 feet to 5,000 feet above sea level.

This unit was dropped following the initial inventory phase when it was found to lack naturalness due to extensive human impacts from mineral exploration.

K.4.6.2 Unit Analysis:

The lands include approximately 11,603 acres of public lands and meet the size criteria. The BLM staff identified the presence of the human impacts which were found in the earlier effort and which remain substantially noticeable.

There are a number of new impacts as well, including a number of primitive vehicle routes identified for the new RMP effort.

The lands are commercially grazed under permit by BLM and there are a number of localized developments (fence lines, etc.) related to the operation which does not substantially detract from the natural condition.

There is a pipeline ROW in the northern portion.

The area receives a fair amount of casual and commercial recreational visitation, especially during summer months.

The staff review found opportunities for primitive recreation and solitude is not at an outstanding level due to the configuration of the unit and recreational use numbers, types, and seasonal uses. The recreation is mostly related to hunting and is mostly semi-primitive motorized.

A portion of the unit has been designated as the Weatherman Draw ACEC for the protection of significant cultural resources which is a supplemental resource.

K.4.6.3 Finding:

The unit meets the size criteria, but the current conditions have changed on the ground, and the results of the long-term restriction of vehicle use do not support the earlier decision that the unit lacks naturalness. The visual impacts do not attract the notice of a casual observer. The vehicle routes are not being used except for non-motorized primitive recreation along with some minor administrative use, but for the most part are naturally rehabbing. The area does offer a high level of solitude and primitive recreation and the area does attract both casual and commercial primitive recreation use. There are supplemental resources present. The unit does meet the conditions for further consideration for Wilderness Character.

K.4.7 Jack Creek Unit

K.4.7.1 Prior Review:

Originally inventoried in 1979 as the Jack Creek Unit (MT-067-203), the general vegetative type is grass and sagebrush except on sandstone outcrops where juniper is found. The topographic features are high angle fault scarps which run in an easterly to northeasterly direction separated by relatively flat valley bottoms.

This unit was dropped following the initial inventory phase when it was found to lack naturalness due to extensive human impacts from mineral exploration.

K.4.7.2 Unit Analysis:

The area includes approximately 7,823 acres of public lands. The BLM staff identified the presence of the human impacts which were found in the earlier effort and which remain substantially noticeable.

There are a number of new impacts as well, including a number of primitive vehicle routes identified for the new RMP effort.

The lands are commercially grazed under permit from BLM and there are a number of localized developments (3 miles of fence lines, at least one spring development, etc.) related to the grazing operation but which does not substantially detract from the natural condition.

There is a pipeline ROW located in the unit.

There are active Bentonite mining claims located on the unit, which are related to the ongoing mining operation on the adjacent private lands.

The staff review found opportunities for primitive recreation and solitude is not at an outstanding level due to the configuration of the unit and recreational use numbers, types, and seasonal uses. The recreation is mostly related to upland bird and big-game hunting and is mostly semi-primitive motorized.

K.4.7.3 Finding:

While the unit meets the size criteria, the current conditions on the ground support the earlier decision that the unit lacks naturalness. The ROW isolates a substantial area and this reduces the area under consideration. The area as a whole does offer a level of solitude and primitive recreation but not at an outstanding level. There are no supplemental resources present. The entire unit does not meet the conditions for further consideration for Wilderness Character.

K.4.8 Little Wall Creek Unit

K.4.8.1 Prior Review:

Originally inventoried in 1979 as Little Wall Creek Unit (MT-067-214), this area consists of a typical grassland/sagebrush type common to eastern Montana. No major topographic features are present. The area is low rolling hills with little topographic relief.

This unit was dropped following the initial inventory phase when it was found to lack naturalness due to extensive human impacts from agricultural development and other activities, lack of outstanding levels of primitive recreation and solitude and no supplemental features being present.

K.4.8.2 Unit Analysis:

The area covers approximately 17,816 acres in size of which all are public lands.

The area is commercially grazed under a BLM permit. There are at least 6 reservoirs, approximately 20 miles of fence, 2 wells and 1 corral associated with this operation.

Approximately 750 acres are under cultivation for crested wheatgrass.

Invasive halogeton is prevalent throughout the unit.

There are no commercial recreation permits and only minimum casual recreational use.

There are several oil and gas leases present, but no development has occurred.

There are a number of vehicular routes noted on the new BLM travel inventory which bisect the unit.

K.4.8.3 Finding:

The lands are not in a natural condition due to invasive species and human impacts, which are localized, but noticeable due to lack of topography and vegetation screening. The opportunity for solitude and primitive recreation is not of an outstanding level. There is little topographical or vegetation screening possible. There are no supplemental values present. These lands do not meet the wilderness characteristics criteria.

K.4.9 Islands

K.4.9.1 Prior Review:

The BLM staff inventoried 9 islands in the earlier wilderness inventory effort. All were located along the Yellowstone River. They were all evaluated together as one single unit (Yellowstone Islands MT-067-210). All of the islands were dropped from further study during the initial inventory phase as lacking opportunity for solitude due to their proximity to offsite human disturbances and in some cases it was also noted that there was a lack of vegetation screening.

The new inventory determined that the conditions noted earlier had changes through time: Due to shifting currents, weather events, and vegetation growth some islands were no longer isolated by river channels. Several new islands were also located due to these same factors. It was also noted that some of the earlier observations of offsite intrusions did not meet current BLM policies. The inventory identified and evaluated 10 individual islands or groupings of small islands which are partially or wholly administered public land islands on the Yellowstone River.

K.4.9.2 Unit Analysis:

Current status plats and aerial photos reveal that there are 10 individual islands or groupings of small islands which are partially or wholly administered public land islands on the Yellowstone River. There are 4 islands on the Clarks Fork of the Yellowstone River as well. The islands total

approximately 1,075.4 acres in size, of which approximately 351.6 acres are public lands managed by BLM. The largest island was 165 acres and the smallest was 3.8 acres.

Boulder River, Stillwater River, and the Musselshell River were also examined, but no islands were located on public lands.

All the islands appear to be very low lying and several may be transitory since they appear to be mostly graveled sand bars. After an initial examination of historical documents, it appears that the hydrology of the river can alter size, shapes and features of islands rapidly and repeatedly. An initial inventory was started in FY 2011 but very high water and flooding conditions stopped the process and may have altered the initial determination. This initial inventory could only be done using aerial photos and Land Status Plats. The islands were field inventoried at different time periods in 2013, during the June high flows, as well as again during low water in the fall of 2013.

The islands are numbered from west to east for the Yellowstone River and south to north on the Clark's Fork of the Yellowstone River.

The Yellowstone River flows northeast through Montana from its source in the southern Absaroka range in Wyoming to its junction with the Missouri River in North Dakota. The Billings Field Office includes approximately 150 miles of this river between Springdale and Custer, Montana.

The Clarks Fork of The Yellowstone River (not to be confused with the Clark Fork River), is a tributary of the Yellowstone River, 150 miles long in Montana and Wyoming. It rises in southern Montana, in the Beartooth Mountains, and southwest of Granite Peak. It flows southeast into the Shoshone National Forest in northwest Wyoming, then northeast back into Montana. It passes the communities of Belfry, Bridger, Fromberg, and Edgar, and joins the Yellowstone approximately 2 miles southeast of Laurel, Montana. The actual junction of the rivers is managed by the BLM as the Sundance Recreation Area.

For the Yellowstone River, typically the western islands have willow and old growth vegetation with an understory of shrubs and grasses. As one progresses eastwards, cottonwoods predominate, but willows, thick shrubs, and even open meadows of range grasses are found.

For the Clark's Fork of the Yellowstone River, these conditions occur as one goes north.

Invasive species such as tamarisk, Russian olive, etc. have established themselves all along the river corridors.

The BLM has Alternatives in the RMP currently under development by the BiFO that all public lands located along the Yellowstone River be managed as an ACEC for resource concerns and for conformity with adjacent FO RMPs.

The Yellowstone River is the pathway of the Lewis and Clark Expedition and has the congressionally designated Lewis and Clark National Historic Trail along its course. Pompeys Pillar National Monument is located adjacent to the River approximately 30 miles east of Billings.

A portion of the Clark's Fork of The Yellowstone River has the congressionally designated Nez Perce (Nee-Me-Poo) National Historic Trail which follows its course.

Both River segments have portions of the State of Montana designated Bozeman Historical Trail which follow their courses.

The Billings Field Office manages a number of lands along the Yellowstone River for their recreational opportunities. The Sundance Lodge Recreation Area and the Four Dances Natural Area/ ACEC have islands located on them.

Yellowstone River:

Island 1: Located in T. 1 S., R. 13 E., Section 8, found west of the community of Big Timber. The island is approximately 3.8 acres in size and is composed of all public lands. The lands are located adjacent to the southern bank of the river.

Island 2: Located in T. 1 N., R. 14 E., Section 19, found just west of the community of Big Timber. It is a total of 113 acres in size, of which approximately 77 acres are public lands.

Island 3: Located in T. 3 S., R. 21 E., Section 9. Four small islands grouped together, the islands are located just west of the community of Columbus and are approximately 45 miles west of Billings.

Island A is approximately 2.3 acres total size – all public lands managed by BLM.

Island B is approximately 2: 3.8 acres total size – 2.5 acres BLM and 1.3 acres private.

Island C is approximately 3.4 acres total size – 1.8 acres BLM and 1.6 acres private.

Island D is approximately 10.1 acres total size – 8.2 acres of BLM and 1.9 acres private.

Island 4: located in T. 2 S., R 24 E., Section 13. This parcel is in close proximity to the Sundance Recreation Area and is near the junction point of the Clarks Fork of the Yellowstone River and the main course of the Yellowstone River. It is a total of 81 acres, of which 34 acres are BLM.

Island 5: Located in T. 1 S., R. 25 E., Section 25. This parcel is a small portion of a larger island and is the western point (upstream side) of the island. The total island size is approximately 313 acres of which 9 acres are BLM.

Island 6: Located in T. 1 S., R 26 E., Section 2. This island is part of the Four Dances Natural Area ACEC managed by the BLM. It is located in mid channel in the downtown section of Billings and is in close proximity to an Oil Refinery, a powerhouse, and Interstate Highway 90. The total size is 23 acres, of which 12 acres are BLM.

Island 7: Located in T. 1 N., R 27 E., Section 8. This island has two separate BLM parcels. It is located east of Billings by the community of Lockwood. The approximate total size of the island is 152 acres, of which the two BLM parcels are 16 acres and 28 acres. The island is dominated by a cottonwood gallery with wetland plant community understory, including willows, sedge, rush and other riparian obligate species. The lands are part of the BLM Grazing Allotment # 5483.

Island 8: Located in T. 3 N., R. 30 E., Sections 19 and 20. This island is known locally as Bundy Island. The approximate total BLM lands are 80 acres and 24 acres. It is located a short distance west of the Pompeys Pillar National Monument and is separated from it by private lands.

Island 9: Located in T. 3 N., R 30 E., Sections 21 and 22. This island is known locally as Pompeys Pillar Island. It is just downstream (east) from the Pompeys Pillar National Monument. The approximate size of the island is 165 acres, of which 105 acres are managed by BLM. This island is dominated by a grassy field surrounded by a mature cottonwood gallery and wetland plant communities. The immediate area, including Pompey's Pillar National Monument, is well known as a birding mecca. There is a bald eagle nest on this island and it is used extensively by hikers and hunters, accessed through PPNM and by river boat.

Island 10: Located in T. 4 N., R. 33 E., Section 7. This island is located just west of the community of Custer and is near 7 mile Flat. The total size of the island is approximately 84 acres, of which 19 acres are BLM. Vegetation comprises willows, tamarisk, and immature cottonwoods on BLM, but there is a mature cottonwood gallery on the privately owned portion of the island.

Clark's Fork of the Yellowstone River:

Island 1: located near the community of Bridger, Montana in T. 7 S., R 23 E., Section 4. The island is approximately 2 acres in size. The island is adjacent to property owned and managed by the State of Montana as a Fishing Access Site (FAS).

Island 2: Located in T. 3 S., R 24 E., Section 18. There are two islands located in close proximity to each other and they are just downstream (north) of the community of Bridger, Montana. The southern island is approximately 6 acres in size and the north island is approximately 8 acres in size.

Island 3: Located in T. 2 S., R 24 E., Section 23. The island, which is approximately 30 acres, is located south east of the junction of State Highway 310 and State Highway 212 at the community of Rockvale, Montana. The public lands are on the north half of the island and comprise approximately 13 acres in size.

Island 4: Located at T. 1 S., R 23 E., Section 4. This island is located in the Sundance Lodge Recreation Area and is just upstream from the junction of the Clark's Fork of the Yellowstone River and the Yellowstone River. The island was estimated as having a total of 5 acres, of which 2 acres are lands managed by the BLM.

K.4.9.3 Finding:

For the Yellowstone River islands:

Island 1 was found to not be an island by definition since the channel separating it from the southern river bank had silted in and was not considered for its wilderness characteristics further. It does not have wilderness characteristics.

Island 2 was found to possess wilderness characteristics since it is in a natural condition, has an outstanding level of solitude and primitive recreation, and a Special Features present.

Island 3 was found to have a high feeling of isolation, to be in a natural condition, and to have primitive recreation occurring on them, as well as possessing supplemental values. These islands have wilderness characteristics.

Island 4 was found to possess wilderness characteristics. The island has significant screening and depth for an outstanding level of solitude and primitive recreation. The human impacts that were recorded are overgrown, screened from view except when in close proximity, and these may even have historical significance.

Island 5 was found to have been significantly affected by the previous years of flooding and is not considered to be an island by the review team any longer since the channel was silted up and the main course of the river had shifted to the extent that the parcel was simply contiguous with the surrounding landscape. This area does not possess wilderness characteristics.

Island 6 was found to have significant human developments on it which caused it to be not in a natural condition. As well, there is no opportunity for solitude. There is a potential primitive recreation and the island does have supplemental values. This island does not have wilderness characteristics present.

Island 7 was found to be readily accessible from Johnson Road by motorized vehicles. The channel which once separated it from the river bank has silted in and is vegetated along much of its former course. There is evidence of motorized vehicle use with several minor ATV tracks present. There are invasive plants species (knapweed, tamarisk, thistle, dock, and others) present due to previous flooding events, as well as some evidence of illegal firewood cutting. The Team determined that these two parcels are not islands and lack wilderness characteristics.

Portions of **Island 8** were found to be not in a natural condition. The agricultural field, although rehabbing, is a noticeable intrusion. The western portion of the parking lot appears to be on BLM land as well. The remainder of the parcel is in a natural condition. Opportunity for primitive recreation is high as the adjacent Fishing Access Site serves as shoreline access.

Island 9 was found to be in an essentially natural condition, although somewhat modified by human impacts found throughout the island. The BLM team considers that it lacks an outstanding level of naturalness, although it has an outstanding level of primitive recreation and that although there are special features present, the land lacks wilderness characteristics.

Island 10 was found by the BLM staff to lack an outstanding level of solitude, although it is in a natural condition. The land lacks wilderness characteristics.

For The Clark's Fork River islands:

Determination: The BLM staff review has determined that **Island 4** in the Clark's Fork of the Yellowstone River is no longer separated from the remainder of the public land (Sundance Lodge Recreation Area) since its original river channel has changed course. This unit does meet the criteria for evaluation. The BLM staff also determined that **Island 3** in the Clark's Fork of the

Yellowstone River had substantive man-made impacts resulting from a recent fire, the rehab efforts, and a water diversion structure which taken together has cumulatively reduced the naturalness level throughout the island. This unit does not have wilderness characteristics. The BLM staff determined that **Island 1** was not separated from the river bank due to the course of the river changing. It was noted that this may change as this particular area seems to have a highly active sediment flow. It is not an island at this time. **Island 2** was found to have invasive species and lack the opportunity for outstanding level of solitude, while possessing excellent primitive recreational values. It does not have wilderness characteristics.

Due to extensive works of man found along the riverbanks, and the islands' small sizes, there might be little sense of solitude; however, there may be some vegetation screening or location in the river channel which may affect the determination. Interstate Highway 90 and the mainline of the Northern Pacific Rail Road parallel the Yellowstone River for much of the distance, but not always right by the river and there are rolling hills and curves in the road and Rail Road courses. The islands do provide outstanding opportunities for primitive recreation since access is limited to boat only and the Yellowstone River is a popular fishing destination. However, the Yellowstone River is open for motorboat use, which is a semi-primitive activity. User percentages are not known.

Unless noted above, the islands do appear to be in a natural condition and may have the potential for further wilderness consideration. The BLM Interdisciplinary team concluded that 126 acres of public land in islands on the Yellowstone River have wilderness characteristics. None of the island units inventoried on the Clark's Fork of the Yellowstone River were determined to possess wilderness characteristics.

K.4.10 Meeteetse Unit

K.4.10.1 Prior Review:

During initial Wilderness inventory a preliminary staff review identified these lands as meeting the size requirement (over 5,000 acres) but probably mostly lacking naturalness due to the presence of roads, and lacking opportunity for solitude and primitive recreation on most of the lands due to lack of topography and vegetation screening. However, it was noted that a small portion of the area did have potential for further in-depth evaluation, if some private lands were acquired. Subsequent to private land acquisition in 2009, this and the larger BLM lands are the area which is the subject of the following formal review and analysis as a Wilderness Character Inventory Unit.

The lands have never been formally inventoried for their wilderness character. One parcel of lands (560 acres) was acquired by the BLM in 2009 (DOI-BLM-MT-C010-2009-0042 EA). A portion of the remainder of the unit is located within the Meeteetse Spires ACEC (960) acres, established in 1999 for protection and enhancement of the rare plant *Shoshona pulvina*, hazardous cliffs, and the scenic values of the spires. Additional portions are public lands located north, south and east of the ACEC and the recently acquired land parcel.

The western boundary is a combination of private lands and National Forest Service; the southern and northern boundaries are private lands and Montana State lands, and the eastern boundary is private lands. They total approximately 18,940.8 acres in size

K.4.10.2 Unit Analysis:

One parcel of land (560 acres) was acquired by the BLM in 2009 (DOI-BLM-MT-C010-2009-0042 EA). A portion of the remainder of the unit is located within the Meeteetse Spires ACEC (960) acres, established in 1999 for protection and enhancement of the rare plant *Shoshona pulvina*, hazardous cliffs, and the scenic values of the spires. Additional portions are public lands located north, south and east of the ACEC and the recently acquired land parcel.

The area is located on the base of the eastern slope of the Beartooth Mountains, approximately 5 miles south of the community of Red Lodge Montana. The terrain rises steeply from 5,600 feet to 7,200 feet in the distance of less than 1.5 miles. The Meeteetse Spires, the main geological formation in the area, are formed by a tilted layer of sedimentary rocks at the edge of the Beartooth Uplift and are remnants of upturned Madison Limestone.

The area is in the rain shadow of the Beartooth Mountains and exhibit an extremely abrupt change in annual precipitation from 26 inches along the west side of the unit to 6 inches less than one mile to the east of the spires.

The lower slopes are a combination of communities of Limber Pine and Douglas Fire; Limber Pine and Rocky Mountain Juniper; montane riparian forest; and Douglas Fir forests with Lodgepole Pine near the USFS boundary. There is some evidence of blister rust and mountain pine beetle kill, but the vast majority of the timber in the area is healthy.

The public lands are adjacent to National Forest lands managed as the "Line Creek Research Natural Area", a Forest Service "Roadless Area" with roadless prescriptions but not recommended by the USFS for potential Wilderness designation.

A small hunting cabin, constructed in 2007 by the previous private landowner, is located in the recently acquired parcel. It is used under BLM permission for research purposes by Rocky Mountain College. It is located in T. 8 S. R. 20 E., Section 35.

There are a number of blocks of private land in-holdings present which are being developed.

The lands are managed as Visual Resource Management (VRM) Class II and III.

There is a commercial recreation operator conducting activities in the area under permit to the BLM and licensed by the State of Montana. The commercial operator brings international, national, and regional clients to the area. General recreational use levels are considered to be low although most of the information is anecdotal. Most activities are hunting and sightseeing.

The Meeteetse Spires Trail, a county maintained vehicle route, enters the unit from the north and continues southerly. It bisects the unit and isolates several parcels from the rest of the unit.

There are three Montana State land parcels which are either edge holdings or inholdings.

There are six separate inholdings present, which vary in size. Several have been subdivided for development purposes.

The vehicle route to the cabin is maintained only by passage of vehicle and would be maintained only in emergency, not for access, but for natural resource protection if it causes severe erosion. This route ends at the Forest Service boundary. It is approximately 1.5 miles in length. The route itself is open for administrative use only and has a gate on it at the State land boundary.

There is a primitive vehicle route in the southern portion of the unit, running north westerly. It dead-ends at the Forest Service boundary and is approximately 3 miles in length. It is not maintained by the BLM. It was previously considered a road and isolates a portion of the unit south of it from the rest of the unit. It is substantially noticeable and is a main access into the general area.

There are a number of primitive vehicle routes in the south central portion of the unit, generally running westerly or southerly, apparently constructed at one time for private land, range or timber access.

The acquisition lands are not grazed commercially due to very shallow soils. The rest of the proposed area is located in portions of 3 grazing allotments. These are the Bear Creek (4148) grazing allotment, the Bischoff (5203) grazing allotment, and the Grove Creek (5225) grazing allotment.

There is a 50 foot wide Forest Service Hiking trail (ROW 71926), located in T. 8 S., R 20 E., Section 27. It crosses a portion of the unit from east to west. The actual trail tread width as constructed varies but is not as wide as the ROW.

Some of the lands have been previously leased for potential oil and gas development, although there has been no development.

The public lands south of the recently acquired parcel have been proposed for possible ACEC designation in at least one Alternative in the draft Billings RMP. Under FLPMA, establishment of ACECs for resource concerns is a priority.

K.4.10.3 Finding:

The Meeteetse Spires Trail and several other vehicle routes which have been determined to be roads bisect portions of the unit into separate parcels. These are identified on the field map, in the road inventory files, and described here:

Tract 1: 23.4 acres in size. Isolated from the rest of unit by Meeteetse Trail, less than 5,000 acres in size and thus lack wilderness character. This parcel will not be considered further.

Tract 2: 977 acres in size. Isolated from the rest of unit by Meeteetse Trail and a vehicle route determined to be a road, less than 5,000 acres in size and thus lack wilderness character. This parcel will not be considered further.

Tract 3: 373 acres in size. Isolated from the rest of unit by Meeteetse Trail and a vehicle route determined to be a road, less than 5,000 acres in size and thus lack wilderness character. This parcel will not be considered further.

Tract 4: 87 acres in size. Isolated from the rest of unit by a vehicle route determined to be a road, less than 5,000 acres in size and thus lacks wilderness character. This parcel will not be considered further.

Tract 5: 3,841 acres in size. Isolated from the rest of unit by a vehicle route determined to be a road, less than 5,000 acres in size and thus lacks wilderness character. Additionally, the parcel has a number of other vehicle determined to be roads or vehicle routes which receive routine use, lacks vegetation and topographical screening. This parcel will not be considered further.

Tract 6: 356 acres in size. Isolated from the rest of unit by a vehicle route determined to be a road, less than 5,000 acres in size and thus lacks wilderness character. This parcel will not be considered further.

Tract 7: A very small parcel of 0.6 acres in size in a corner of the unit isolated by Meeteetse Road from the rest of the public lands. It is less than 5,000 acres in size. This parcel will not be considered further.

Tract 8: Approximately 2.9 acres in size in a corner of the unit and isolated from the rest of the unit by a vehicle route determined to be a road. It is less than 5,000 acres in size and lack wilderness character. This parcel will not be considered further.

Tract 9: Approximately 10,809 acres in size. This large, central region of the unit has a number of vehicle routes which are somewhat noticeable and used on at least an occasional basis, as well as most of the private land inholdings. Several range developments and their access routes are also visible from a distance due to topography and lack of vegetation screening. This parcel will not be considered further.

Tract 10: The remainder of the unit, approximately 2,149 acres along the west side of the unit, has man-made facilities and structures which are substantially unnoticeable and which do not detract from the surrounding environment. Vehicle routes #2 and #3 are minor, naturally rehabbing, and do not substantially attract casual attention. Vehicle route #1, the route to the cabin, is not open to the public except as a non-motorized trail. It is visible within the view shed of the canyon which it goes up, however.

There is a primitive vehicle route in the southern portion of the unit, running north westerly. It dead-ends at the Forest Service boundary and is approximately 1 mile in length. It is not maintained by the BLM and is not being used. It is identified as vehicle route #2 in the Road Analysis Forms.

There is a primitive vehicle route in the south central portion of the unit, running west, apparently constructed at one time for range or timber access. It is approximately 0.25 miles in

length and dead-ends near the south eastern corner of the recently acquired private lands. It is not maintained by the BLM. It is not being used. It is identified as vehicle route #3 in the Road Analysis Forms

Conclusion:

There are natural attractions in Tract 10 of the unit which have outstanding primitive recreational opportunities, which include the Meeteetse Spires and other local geological formations. There are limited numbers of primitive motorized vehicle routes which may be used for non-motorized access. The FS trails (both designated and non-designated) on public lands within the unit are non-motorized. The terrain is challenging and more visitor risk is assumed to be present. Self-reliance is necessary.

The land in Tract 10 is considered significant for the presence of a rare plant species, *Shoshona pulvinata*, which is known in only three locations in Montana and twelve locations world-wide. It is not a federal species candidate for federal listing, but is a BLM sensitive plant species.

Tract 10 includes the lands already designated as the Meeteetse Spires ACEC.

Additionally, the lands are within the Yellowstone Grizzly Bear Recovery Zone and critical habitat for the Canada Lynx. There are nesting Peregrine Falcons in the rock spires. A wolf pack was eliminated from the area after preying on livestock, but the area is known habitat.

Of the entire Unit, only the lands in Tract 10 are considered to have wilderness characteristics, and these do not meet the size criteria. However, the boundary does provide the opportunity to manage it as a separate unit, so the Staff feels that the exemption criteria apply. The boundary is set as being the Forest Service/ BLM on the west, private lands on the south, and the east has a combination of Montana State lands and the Meeteetse Road, vehicle the north boundary is private lands.

K.4.11 Bad Canyon Unit

K.4.11.1 Prior Review:

No prior wilderness inventory has been done for this parcel. It is less than 5,000 acres in size and is isolated from other BLM lands. Following the new wilderness inventory guidelines in BLM Manual 6301 the BLM staff and members of the public recommended a review be done and an evaluation be prepared. The public lands are located adjacent to lands managed by the Custer National Forest, but which are not recommended for possible Wilderness designation. The lands include approximately 2,036 acres of public lands and there are no private land inholdings.

K.4.11.2 Unit Analysis:

The unit is bordered by private lands on all sides except the south, which are National Forest lands.

There is no motorized access to this parcel. The BLM does have a non motorized ROW across private lands and there is an undeveloped trailhead located on the south side of the unit.

The area is extensively timbered with scenic geological formations.

The riparian corridor is in a natural condition, with few invasive species present.

Bad Creek contains a stable population of Yellowstone Cut-throat trout, which is a native species, listed as endangered, and is a supplemental feature for the unit. The lands are important habitat for Grizzly Bear. The riparian corridor serves as an important wildlife migration corridor.

The trout, and the natural scenery, attract an unknown number of casual recreationists, mostly from the local communities, but the location is advertized as a destination in several publications regionally. There are no known commercial recreation operators. All recreational use is primitive in nature. The surrounding private lands have strictly restricted access as well.

A portion of the unit was previously burned in a wild fire, but is naturally rehabbing.

There is one motorized vehicle route which enters the unit from the east across Forest lands. It is naturally rehabbing and is not open for use. There is one vehicle route which accesses the lands from the south. It is maintained only by use and is not open to general use across private lands.

There are portions of five grazing allotments in the unit. The allotments are 5492, 5582, 5558, 5562, and 5548.

K.4.11.3 Finding:

The unit is in a natural condition. There is plentiful vegetation and topographical screening for an outstanding level of solitude. The area has significant geological, riparian, wildlife, and scenery resources which provide an outstanding level of primitive recreation attractions and experiences. The opportunity for this kind of recreation is further enhanced by the administrative lack of motorized access across the private lands. The lands in the unit are less than the minimum size criteria however, and although the unit is configured in a long and relatively narrow shape which by itself does not lend itself to wilderness management, the canyon within the unit can be managed by itself, or the entire unit along private/public land boundaries.

K.4.12 Lake Mason Unit

Prior Review

The area inventoried in this effort was slightly different from the earlier effort since the BLM staff identified several potential changes in vehicle routes which might affect the determination. A number of vehicle routes were inventoried during the course of the BLM Travel Management Planning conducted during FY 2009-2011 as part of the new Billings Field Office RMP effort. Several routes were classified at that time as being less than roads, including Grazing District Road located in the southern region of the unit.

The public lands are completely surrounded by private and Montana State lands. There are two (2) parcels of Montana State lands totaling 800 acres which are completely isolated within the unit, as well as two (2) private lands parcel inholdings which total approximately 170 acres in size. The Inventory area totals approximately 10,504 acres of public land in size.

The lands are composed of a sage-brush grass steppe ecosystem with only a few scattered trees present. The terrain is one of low rolling hillsides broken by a few small washes with little elevation change. There are few low outcroppings of rock. There are no permanent water sources present. There are invasive plant species which are common throughout the unit.

Unit Analysis:

There is a power line ROW which cuts through a portion of the southern area of the unit. A portion of the eastern boundary of the unit is formed by an isolated USDI Fish and Wildlife parcel of the Lake Mason National Wildlife Refuge. A portion of the western boundary of the unit is formed by a Montana State land parcel. The remainder of the inventory unit is formed by private/public lands boundary.

A county maintained road (Snowy Mountain Road) cuts through the north portion of the unit from east-west and isolates approximately 320 acres from the rest of the unit. This part of unit does not meet the size criteria and does not have any wilderness characteristics.

On the east side of the unit approximately 1,320 acres of public lands are isolated by another county maintained road (an extension of the Lake Mason Road) running north-south. This portion of the unit has no wilderness characteristics since it does not meet the size criteria either.

The lands are commercially grazed under permit from BLM as part of Grazing Allotments 4981, 4975, and 4988. There are a number of related facilities including stock ponds, a windmill, access routes, and fence lines. These are localized impacts and do not substantially detract from the natural condition.

The unit receives some recreational use, mostly upland game hunting. Use numbers are unknown but are estimated by both BLM staff and State of Montana Fish, Wildlife and Parks staff to be very low. The lands are part of a State of Montana Block Management hunting unit. There are no commercial, competitive or organized groups under permit from the BLM using these lands. The area is not being marketed by any individual or government entity as a major recreational destination.

The lands are critical sage grouse habitat, which extends over a much large area than just this unit.

The BLM route inventory process found that there are 13 separate vehicle routes totaling approximately 21 miles in length.

Finding:

Although current human use levels are apparently very low and the expectation of meeting anyone on the unit is also very low, there is very little vegetation or topographical screening present, so any human caused sights and sounds would be noticeable at a large distance. There is not an outstanding level of solitude present. The area does not offer itself as a recreation destination. There are no specific attractions present other than a large open space of public lands, which are themselves set in the middle of a large expanse of open and undeveloped landscape. The lands will not be evaluated further.

K.4.13 Timber Canyon Unit

K.4.13.1 Prior Review:

No prior wilderness inventory was conducted on this land parcel. No clear indication of why it was not is available. Following the new guidelines the BLM staff recommended a review be done and an evaluation be prepared. The public lands are located adjacent to lands managed by the Custer National Forest, but which are not recommended for possible Wilderness designation. The lands include approximately 6,414 acres of public lands and there are no private land inholdings.

The Timber Canyon unit is located about 60 miles east of Red Lodge. The soils in the Timber Canyon area are derived from limestone and sandstone formations. The limestone uplifts and formations contain a number of caves and sinkholes.

This mountain range was never glaciated, is rather dry, and contains some very steep terrain and some of the canyons are deeply incised in the limestone

K.4.13.2 Unit Analysis:

The BLM road analysis determined that there seven (7) routes which meet the criteria as roads. These are identified on the BLM Surface Management Status Map (*Bridger, 2000*) as routes 1039, 1046, 1046, 1047, 1048, 1049, 1050, and 1051. Three of them (1046, 1047, and 1051) connect to designated Forest Service roads, while 1039 connects to 1046 and 1050 connects to a power line located off public lands. Cumulatively, these routes cut the unit into small parcels.

There is a power-line ROW located along portions of the western edge of the unit.

The lands are grazed commercially under permit from BLM as Allotment 4135. There are a number of associated range developments present.

The unit has never received heavy use by recreationists, although it does receive regular use by recreationists passing through it while going to more popular destinations on the Forest lands lying above it. Recreation opportunities include deer and small game hunting, hiking, and snowmobiling. Many primitive trails and old mining roads provide easy motorized access. The unit has no commercial outfitters operating on it.

There are reported to be some archeological and paleontological sites on the unit but an intensive inventory has not been done.

K.4.13.3 Finding:

The lands have a number of established vehicle routes which qualify as roads. These cut the unit into smaller parcels, none of which meet the size criteria. The configuration of the parcel does not lend itself or portions of the unit, to management as wilderness. The area as a whole does offer a level of solitude and primitive recreation but not at an outstanding level. Semi-primitive motorized recreation is the type of activity now occurring on it. There are supplemental resources present. The entire unit does not meet the conditions for further consideration for Wilderness Character.

K.5 Conclusion

Table Appendix K-1: Lands with Wilderness Characteristics Review Finding

Lands With Wilderness Characteristics Review Finding			
Name of unit	Total Acres	Wilderness Character	Non-Wilderness Character
A. Pryor Mountain Unit			
Tract 1	2,873 acres	2,873 acres	0 acres
Tract 2	497 acres	497 acres	0 acres
Tract 3	143 acres	143 acres	0 acres
Tract 4	445 acres	0 acres	445 acres
Tract 5	559 acres	512 acres	47 acres
Tract 6	1,074 acres	1,074 acres	0 acres
Tract 7	327 acres	327 acres	0 acres
Tract 8	269 acres	0 acres	269 acres
B. Dry Creek Unit	6,425 acres	0 acres	6,425 acres
C. Deer Mountain Unit	9,496 acres	0 acres	9,496 acres
D. Bear Creek Unit	8,930 acres	5,659 acres	3,271 acres
E. Burnt Timber Unit			
Tract 1	1,816 acres	703 acres	1,113 acres
Tract 2	5,388 acres	5,375 acres	13 acres
F. Weatherman Draw Unit	11,603 acres	6,033 acres	5,570 acres
G. Jack Creek Unit	7,823 acres	0 acres	7,823 acres
H. Little Wall Creek Unit	17,816 acres	0 acres	17,816 acres
I. River islands	352 acres	126 acres	226 acres
J. Meeteetse Unit			
Tract 1	23.4 acres	0 acres	23.4 acres
Tract 2	977 acres	0 acres	977 acres
Tract 3	373 acres	0 acres	373 acres
Tract 4	87 acres	0 acres	87 acres
Tract 5	3,841 acres	0 acres	3,841 acres
Tract 6	356 acres	0 acres	356 acres
Tract 7	0.6 acres	0 acres	0.6 acres
Tract 8	2.9 acres	0 acres	2.9 acres
Tract 9	10,809 acres	0 acres	10,809 acres
Tract 10	2,149 acres	2,149 acres	0 acres
K. Bad Canyon Unit	2,036 acres	2,036 acres	0 acres
L. Lake Mason Unit	10,504 acres	0 acres	10,504 acres
M. Timber Canyon Unit	6,414 acres	0 acres	6,414 acres
TOTAL	113,408.9 acres	27,507 acres	85,901.9 acres

Following management Prescriptions in the BLM Manual 6310, Official Case Files for each of the inventory units have been established. These contain Road/Route determinations, relevant reference documentation, and a detailed analysis of the current resource conditions. These files are available for public review and will be maintained by the Billings Field Office.

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Appendix L: Livestock Screening Criteria

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L. Screening Criteria Checklist for Ten Year Grazing Permit / Lease Renewal and Transfers

To determine if a proposed renewal or transfer is applicable, the following screening criteria should be applied. If the answer to every question here is NO, the proposed renewal or transfer qualifies and NEPA compliance can be achieved by preparing a Documentation of NEPA Adequacy (DNA) that references the Billings/Pompeys Pillar RMP EIS. However, if the answer to any question is Yes, the proposal represents an exception and an individual Environmental Analysis (EA) should be prepared.

1. Do any of the Departmental Categorical Exclusion Exception Criteria apply?

Would the proposed action:

- Have significant adverse effects on public health or safety?
- Have adverse effects on such unique geographic characteristics as historic or cultural resources, park, recreation or refuge lands, wilderness areas, wild or scenic rivers, sole or principal drinking water aquifers, prime farmlands, wetlands, floodplains, or ecologically significant or critical areas, including those listed on the Department's National Register of Natural Landmarks?
- Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources?
- Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?
- Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?
- Be directly related to other actions with individually insignificant but cumulatively significant environmental effects?
- Have adverse effects on properties listed or eligible for listing on the National Register of Historic Place?
- Have adverse effects on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have adverse effects on designated Critical Habitat for these species?
- Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).
- Threaten to violate a Federal, State, local or tribal law or requirement imposed for the protection of the environment?
- Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).

- Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)
2. Is the proposed renewal or transfer on an allotment not meeting Range Health Standards? (This would vary by alternative.)
 3. Will the proposed renewal or transfer require a change to the mandatory terms and conditions of the expiring or transferring permit / lease?
 4. Would the proposed renewal or transfer negatively impact crucial/critical wildlife habitat?
 5. Would the proposed renewal or transfer negatively impact any known Threatened or Endangered (BLM sensitive - special status?) species habitat?

You must be able to provide documentation or rationale to support all No answers, if necessary.

Appendix M: Coal Resources

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M. Coal Resources: Coal Development Potential and Unsuitability Criteria

M.1 Coal Resource Objectives and Planned Actions

The Billings Field Office planning area will be open for federal coal exploration license applications. Licenses to mine federal coal for domestic use will be available as long as production does not annually exceed 20 tons. Federal coal leasing by application (LBA) will remain available for both underground and surface mining considerations. The unsuitability criteria will be applied to the lease application area and a plan amendment to the current RMP will be prepared if necessary. Prior to approving exploration licenses, licenses to mine (domestic), and coal lease applications, a project-specific environmental review document will be prepared to assess impacts and develop mitigation measures.

The federal coal leasing decisions that were made in the previous RMP will be brought forward and adopted in this RMP:

- All federal coal that is minable by underground methods is suitable for further consideration for leasing or exchange, pending further study. Within the planning area, potential coal resource underground mining development areas occur in the Bull Mountain Coal Field located in Musselshell and Yellowstone counties and in the Red Lodge-Bearcreek Coal Field located in Carbon County. The coal unsuitability criteria will not be applied to the lands comprising the coal application area until a site-specific mine plan is filed that details the proposed locations of surface facilities.
- Within the planning area, surface coal mining development areas occur within the Bull Mountain Coal Field and are suitable for further consideration for leasing or exchange, pending further study. Within this area, federal coal with a strip ratio less than 10:1, that can be mined by surface methods must first be screened to determine their development potential, surface owner opposition to mining, the presence of unacceptable environmental conflicts (unsuitability criteria), and multiple use conflicts in accordance with the four coal screens. The application of the coal screens also includes the consideration of the unsuitability criteria.

In 1984, surface owners of land overlying federal coal in the Bull Mountain Coal Field in the Mammoth and McCleary beds (South Divide Resource Area) were consulted to determine their preference for or against leasing their land for surface mining. Due to the significant amount of time that has elapsed since the consultation was conducted, it was decided not to include that data in the RMP (see Chapter 3 – Coal).

Federal coal lease applications and exchange proposals will be considered on a case-by-case basis. The coal screening process will be applied to future lease application areas that have surface mine development potential.

M.2 Decision Rationale

This action was selected because it will enable the BLM to comply with the multiple use mandates established by FLPMA and the 43 CFR 1600 regulations governing multiple use planning. Furthermore, it will allow the BLM to comply fully with the Surface Mining Coal Reclamation Act (SMCRA) and the 43 CFR 3400 regulations established to govern the federal coal management program. Although development of federal coal resources by surface mining methods will be allowed in the Bull Mountain Coal Field, underground mining will be encouraged, because it is less environmentally disruptive. The decision to implement a 10:1 (overburden thickness to coal thickness) stripping ratio cutoff limit was based on the premise that it may limit the size of the surface mine.

M.3 Coal Screens and Unsuitability Criteria

The principle coal resource-related decision required in developing a land use plan (LUP) is the identification of areas that could be acceptable for further consideration for coal leasing. 43 CFR 3420.1-4(e) states:

“The major land use planning decision concerning coal resource development shall be the identification of areas acceptable for further consideration for leasing which shall be identified by the screening procedures.”

Four coal screens were applied to areas within the planning area that contain federal coal that could be potentially developed by surface mining methods. The four coal screens (43 CFR 3420.1-4) are explained below:

- **Identification of Area with Coal Development Potential** – Areas being considered for development must have a coal resource that has the potential to be developed by surface mining methods. Areas could be eliminated from further consideration if they do not contain a coal resource with development potential;
- **Surface Owner Consultation** – Surface owners in areas that have the potential to be developed must be consulted to determine their view of surface mining. Negative surface owner consent could result in lands being eliminated from further consideration for development;
- **Application of Unsuitability Criteria** – A list of 20 coal unsuitability criteria are applied to areas that have coal development potential. Areas can be eliminated from further consideration for development if they fail to meet any of the 20 unsuitability criteria; and
- **Multiple Use Conflict Analysis** – The value of other federal resources that are present in coal development areas must be also be considered. Areas with coal development potential may be eliminated from further consideration based on multiple use considerations if other federal resource values are determined to be superior to the coal resource.

Once the coal screens have been applied to prospective coal resource areas via the LUP, the unsuitability criteria are generally reviewed and possibly readjusted during the environmental review process for subsequent coal lease applications.

Provided below is a description of the 20 unsuitability criteria for assessing lands suitable for all or certain stipulated methods of coal mining:

Criterion Number 1: All federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and federal lands in incorporated cities, towns and villages.

Exceptions: (i) A lease may be issued within the boundaries of any National Forest if the Secretary finds no significant recreational, timber, economic or other values which may be incompatible with the lease; and (A) surface operations and impacts are incident to an underground coal mine or (B) where the Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those National Forests west of the 100th meridian, that surface mining may be in compliance with the Multiple-Use Sustained-Yield Act of 1960, the Federal Coal Leasing Amendments Act of 1976, and the Surface Mining Control and Reclamation Act of 1977. (ii) A lease may be issued within the Custer National Forest with the consent of the Department of Agriculture as long as no surface coal mining operations are permitted.

Exemptions: The application of this criterion to lands within the listed land systems and categories is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

Criterion Number 2: Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or public purposes on federally owned surface shall be considered unsuitable.

Exceptions: A lease may be issued, and mining operations approved in such areas if the surface management agency determines that:

- i. All or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement; or
- ii. The right-of-way or easement was granted for mining purposes; or
- iii. The right-of-way or easement was issued for a purpose for which it is not being used; or
- iv. The parties involved in the right-of-way or easement agree, in writing, to leasing; or

- v. It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 3: The terms used in this criterion have the meaning set out in the Office of Surface Mining Reclamation and Enforcement regulations at Chapter VII of Title 30 of the Code of Federal Regulations. Federal lands affected by section 522(e) (4) and (5) of the Surface Mining Control Act of 1977 shall be considered unsuitable. This Includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of a public building, school, church, community or institutional building, or public park, or within 300 feet of an occupied dwelling.

Exceptions: A lease may be issued for lands:

- i. Used as mine access roads or haulage roads that join the right-of-way for a public road;

For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;

If, after public notice and opportunity for public hearing in the locality, a written finding is made by the authorized officer that the interests of the public and the landowners affected by mining within 100 feet of a public road will be protected;

For which owners of occupied buildings have given written permission to mine within 300 feet of their dwellings.

Exemptions: The application of this criterion is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

Criterion Number 4: Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and the Congress for possible wilderness designation. For any federal land which is to be leased or mined prior to completion of the wilderness inventory by the surface management agency, the environmental assessment or impact statement on the lease sale or mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If the finding is affirmative, the land shall be considered unsuitable, unless issuance of noncompetitive coal leases and mining on leases is authorized under the Wilderness Act and the Federal land Policy and Management Act of 1976.

Exemption: The application of this criterion to lands for which the Bureau of Land Management is the surface management agency and lands in designated wilderness areas in National Forests is subject to valid existing rights.

Criterion Number 5: Scenic federal lands designated by visual resource management analysis as Class I (an area of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable.

Exception: A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 6: Federal lands under permit by the surface management agency, and being used for scientific studies involving food or fiber production, natural resources or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstration, or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purposes of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 7: All publicly or privately owned places which are included in the National Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 8: Federal lands designated as natural areas or as National Natural Landmarks shall be considered unsuitable.

Exceptions: A lease may be issued and mining operation approved in an area or site if the surface management agency determines that:

- ii. The use of appropriate stipulated mining technology will result in no significant adverse impact to the area or site; or

The mining of the coal resource under appropriate stipulations will enhance information recovery (e.g. paleontological sites).

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which includes operations on which a permit has been issued.

Criterion Number 9: Federally designated critical habitat for listed threatened or endangered plant and animal species, and habitat for federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

Exception: A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 10: Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

Exception: A lease may be issued and mining operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 11: A bald or golden eagle nest or site on federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

Exceptions: A lease may be issued if:

- iii. It can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or
- iv. The surface management agency, with the concurrence of the Fish and Wildlife Service, determines that the golden eagle nest(s) will be moved;

- v. Buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 12: Bald and golden eagle roost and concentration areas on federal lands used during migration and wintering shall be considered unsuitable.

Exception: A lease may be issued if the surface management agency determines that all or certain stipulated methods of coal mining can be conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 13: Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

Exception: A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 14: Federal lands which are high priority habitat for migratory bird species of high federal interest on a regional or national basis, as determined jointly by the surface management agency and the Fish and Wildlife Service, shall be considered unsuitable.

Exception: A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the migratory bird habitat during the periods when such habitat is used by the species.

Exemption: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 15: Federal lands which the surface management agency and the state jointly agree are habitat for resident species of fish and wildlife and plants of high interest to the state and which are essential for maintaining these priority wildlife species shall be considered unsuitable.

Examples of such lands which serve a critical function for the species involved include:

- vi. Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;

Winter ranges crucial for deer, antelope, and elk;

Migration corridors for elk;

Extremes of range for plant species; and

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 16: Federal lands in riverine, coastal, and special floodplains (100-year recurrence interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 17: Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

Exception: A lease may be issued where the surface management agency in consultation with the municipality (incorporated entity) or the responsible governmental unit determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 18: Federal lands with National Resource Waters, as identified by states in their water quality management plans, and a buffer zone of federal lands $\frac{1}{4}$ mile from the outer edge of the far banks of the water, shall be unsuitable.

Exception: The buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect the National Resource Waters.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 19: Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in §3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue or preclude farming, shall be considered unsuitable. Additionally, when mining federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

Exemptions: This criterion does not apply to surface coal mining operations which produced coal in commercial quantities in the year preceding August 3, 1977, or which had obtained a permit to conduct surface coal mining operations.

Criterion Number 20: Federal lands in a state to which is applicable a criterion (i) proposed by that state or Indian tribe located in the planning area, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

Exceptions: A lease may be issued when:

- vii. Such criterion is adopted by the Secretary less than 6 months prior to the publication of the draft comprehensive land use plan or land use analysis plan, or supplement to a comprehensive land use plan, for the area in which such land is included; or

After consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not adversely affect the value which the criterion would protect.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Underground mining exemption from criteria:

- a) Federal lands with coal deposits that would be mined by underground mining methods shall not be assessed as unsuitable where there would be no surface coal mining operations, as defined in §3400.0-5 of this title, on any lease, if issued.
- b) Where underground mining will include surface operations and surface impacts on federal lands to which a criterion applies, the lands shall be assessed as unsuitable unless the surface management agency finds that a relevant exception or exemption applies. Source: 43 CFR 3461.1, BLM, 1987

Appendix N:
Special Recreation Management Areas (SRMA) and
Extensive Recreation Management Areas (ERMA) Tables

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N. SRMA and ERMA Tables

Special Recreation Management Areas

Four Dances Natural Area and ACEC Special Recreation Management Area

<p>Management Objectives:</p>	<ul style="list-style-type: none"> • Provide dispersed recreation experiences accessible from Billings and the local community. • Provide wildlife habitat • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Protect historic, cultural and scenic values (Historic Will James Cabin) 		
<p>Outcomes</p>			
<p>Primary Activities:</p> <ul style="list-style-type: none"> • Hiking • Running • Cross country skiing • Bird watching • Picnicking • Fishing • Exercising pets • Scenery and wildlife viewing • Yellowstone River access 	<table> <tr> <td> <p>Experiences:</p> <p>Enjoying:</p> <ul style="list-style-type: none"> • Solitude • Family Recreation • Fishing • Exercise • Scenery • Escaping everyday responsibilities for awhile • Viewing historic building (Will James Cabin) • having access to close-to-home outdoor amenities • Appreciation of historic and pre-historic cultural resources. </td><td> <p>Benefits:</p> <p>Personal:</p> <ul style="list-style-type: none"> • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural resource stewardship ethic <p>Household and Community:</p> <ul style="list-style-type: none"> • Improved quality of life • Greater awareness of and appreciation for our cultural heritage • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. <p>Economic:</p> <ul style="list-style-type: none"> • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs <p>Environmental:</p> <ul style="list-style-type: none"> • Increased resource stewardship and protection by communities </td></tr> </table>	<p>Experiences:</p> <p>Enjoying:</p> <ul style="list-style-type: none"> • Solitude • Family Recreation • Fishing • Exercise • Scenery • Escaping everyday responsibilities for awhile • Viewing historic building (Will James Cabin) • having access to close-to-home outdoor amenities • Appreciation of historic and pre-historic cultural resources. 	<p>Benefits:</p> <p>Personal:</p> <ul style="list-style-type: none"> • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural resource stewardship ethic <p>Household and Community:</p> <ul style="list-style-type: none"> • Improved quality of life • Greater awareness of and appreciation for our cultural heritage • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. <p>Economic:</p> <ul style="list-style-type: none"> • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs <p>Environmental:</p> <ul style="list-style-type: none"> • Increased resource stewardship and protection by communities
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Four Dances Natural Area and ACEC Special Recreation Management Area

Setting Prescriptions

Physical:

- The area is Rural. The surrounding character of the landscape is considerably modified (20-40 acre ranchettes, communications towers and two private in-holdings within the boundaries). The most natural area occurs along the western edge of the SRMA with views of the urban/industrial core area of Billings easily accessible. The historic/rustic Will James cabin lies on the northern edge. Facilities include an unpaved parking lot, vault toilet and kiosk. One caretakers' residence could be allowed but could not disturb more than ½ acre nor change the VRM, Recreational Opportunity Spectrum (ROS) or ACEC Scenic values.

Social:

- Mostly small groups of 1-5 with occasional large group activities including Native American ceremonies.
- Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.

Administrative:

- Day use only
- Closed to: horseback riding
- Closed to atvs/snowmobiles
- Closed to fireworks discharge
- OHV use limited to administrative use only
- Closed to hang gliding
- Closed to rock climbing
- Closed to paint ball
- Closed to discharging of firearms
- Closed to exercising pets off leash
- Closed to driving off road/cross country.
- Compliance with terms of conservation easements

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Implement current travel management decisions.
- Maintain setting:
 - Developments would be managed to VRM class III
- Health, safety, resource protection, user conflict resolution
 - Closed to OHV
 - Closed to equestrian use
 - Closed to rock climbing
 - Closed to hang gliding
 - No discharge of firearms
 - No fuel-wood collection
 - No fireworks
 - The area may be closed during high fire danger
- Special Recreation Permit criteria:
 - Archery hunting may be allowed, if deemed necessary for wildlife population control by MTFWP. (An authorization from BLM would also be required).
 - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management
 - Other permits considered if not in conflict with basic management.

Other Programs:

- Surface Use Controls:
 - Withdrawn from location or entry under US mining laws for 20 years.
 - No geophysical exploration
 - Closed to mineral leasing, exploration and development
 - Closed to mineral deposit
- Range Management:
 - Grazing would only be allowed to meet other resource objectives
- Fire and Fuels Management:
 - May be subject to closure during high fire danger
 - May be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat.
- Visual Resource Management:
 - Manage as VRM class II
- Cultural Resource Management
 - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management

Four Dances Natural Area and ACEC Special Recreation Management Area

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- The Will James cabin will be maintained according to the Secretary of Interior Standards
- Develop system of multiple use trails. (Bicycle, foot, X-C ski)
- Pets off-leash allowed in outside of concentrated use area (parking lot and restroom/trailhead).

Administrative:

- All motorized/mechanized use limited to specifically administrative use

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Sundance Lodge Special Recreation Management Area

Management Objectives:	Manage to minimize user conflicts and impacts to resources while providing opportunities for non-motorized activities. <ul style="list-style-type: none">• Provide wildlife habitat• Protect historic, cultural, and scenic values.• Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources.• Provide dispersed recreation experiences accessible from Billings and surrounding local communities.	
Outcomes		
Primary Activities: <ul style="list-style-type: none">• Fishing• Hunting (archery and shotgun)• Canoeing• Hiking• Running• Cross country skiing• Bird watching• Horseback riding• Picnicking• Exercising pets off leash• Access to the Clark's Fork of the Yellowstone River• Wildlife viewing	Experiences: Enjoying: <ul style="list-style-type: none">• Solitude• Family Recreation• Fishing• Canoeing• Exercise• Exercising pets off leash• Scenery• Escaping everyday responsibilities for awhile• Having access to close-to-home outdoor amenities• Appreciation of historic and pre-historic cultural resources.	Benefits: Personal: <ul style="list-style-type: none">• Improved physical fitness• Restored mind from unwanted stress• Greater sense of overall wellness• Enhanced cultural resource stewardship ethic Household and Community: <ul style="list-style-type: none">• Improved quality of life• Greater awareness of and appreciation for our cultural heritage• Greater appreciation for the area and outdoor-oriented lifestyle• Involvement in recreation and other land use decisions• Increased desirability as a place to live or retire. Economic: <ul style="list-style-type: none">• Positive contributions to local-regional economic stability• Increased work productivity• Reduced health maintenance costs Environmental: <ul style="list-style-type: none">• Increased resource stewardship and protection by communities

Sundance Lodge Special Recreation Management Area

Setting Prescriptions

Physical:

- The area has a "Rural Recreation" Rural Recreation Opportunity Spectrum management direction.
- The BLM maintains a storage barn/shop and equipment and supplies storage yard.
- The public use area contains a parking lot, trailhead kiosk, Block Management sign-in station, vault toilet and barriers and fences to exclude OHVs from the trail system. Open area are subject cultivation to provide wildlife habitat and maintain land use pattern.

Social:

- Mostly small groups of 1-5 with occasional large group activities including Native American ceremonies.
- Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.

Administrative:

- OHV use including bicycles limited to administrative and authorized use only.
- Closed to discharge of rifles and pistols
- Closed to paintball activities
- Permanent tree stands prohibited
- Day use only
- Open campfires only in designated sites.
- Closed to fireworks discharge
- Closed to driving off road/cross country.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Cooperative management with Pheasants Forever facilitates bird populations and hunting
 - Cooperative management with Montana Fish Wildlife and Parks as a Block Management area close to urban populations.
- Maintain setting:
 - Day use only
- Health, safety, resource protection, user conflict resolution
 - OHV use including bicycles limited to administrative and authorized use only.
 - Closed to discharge of rifles and pistols
 - Closed to paintball activities
 - Permanent tree stands prohibited
 - May be subject to closure during high fire danger
- Special Recreation Permit criteria:
 - Use of shotguns, driving off highway vehicles, overnight camping and competitive events require approval from the Billings Field Office Manager

Other Programs:

Surface Use Controls:

- BLM does not have mineral rights for Sundance Lodge. NEPA for future development could address access routes, mining/drilling locations, but cannot deny access.
 - A surface use plan must be approved prior to permitting any surface disturbing activities.
- Range Management:
 - Grazing may be authorized for the purposes of weed control, vegetative management to reduce hazardous fuels, or to provide short-grass habitat and habitat diversity for wildlife.
- Fire and Fuels Management:
 - Fireworks are prohibited
 - Aggressive fire suppression would be used
 - Open campfires may be allowed in designated sites only.
 - Subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat.
- Visual Resource Management:
 - Managed as a VRM Class II criteria.

Sundance Lodge Special Recreation Management Area

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- Prescribed fire, livestock grazing and vegetative thinning would be used to reduce hazardous fuels
- Parking lot may be modified
- Installation of a vault toilet –
- Use of BMPs
- Use of shotguns, driving off highway vehicles, overnight camping and competitive events require approval from the Billings Field Office Manager
- In-holdings may be eliminated if an opportunity for land tenure consolidation is presented.
- Farming may continue under the Cooperative habitat Agreement
- Area is available for environmental education programs.

Administrative:

- Bee keeping will require a permit.
- Farming may continue on cultivated areas
- Continue the agreement with Pheasants Forever and Montana Department of Fish Wildlife and Parks.
- Developments may include a parking lot, fully accessible toilet, a boat ramp
- Harvest of dead and down material will be permitted for personal use only if the material creates a safety/fire hazard or obstructs a trail, road, or parking area.
- Any visual alterations must meet VRM Class III criteria.
- Right away avoidance area

Information and Education:

- interpretive signs
- meeting facility

Monitoring:

- A trespass prevention, detection and abatement program will be developed consistent with laws and land use planning.

Shepherd Ah-Nei Special Recreation Management Area - OHV Use Area (RMZ 1) (976 acres)

Management Objectives:	The objective of area management is to continue to provide opportunities for non-competitive motorized or mechanized trail riding for all ability levels local to the most populous urban area in Montana. This area meets the criteria for unique value as the only lands within the BIFO managed to provide specifically designated ATV trails. It meets the importance criteria for its close proximity to the Montana's most populous urban area. (RMZ 1) has a developed parking area and OHV trailhead and provides access to over 50 miles of designated OHV trails.	
Outcomes		
Primary Activities: <ul style="list-style-type: none">• OHV trail riding,• mountain biking,	Experiences: <ul style="list-style-type: none">• Developing skills and abilities• Testing endurance• Enjoying risk-taking adventure• Enjoying the closeness of friends and family• Escaping everyday responsibilities for awhile• Enjoying having access to close-to-home outdoor amenities	Benefits: Personal: <ul style="list-style-type: none">• Improved physical fitness• Better health maintenance• Restored mind from unwanted stress• Greater cultivation of outdoor-oriented lifestyle• Improved outdoor knowledge, skills, and self-confidence• Greater environmental awareness and sensitivity• More well-informed and responsible visitors. Household and Community: <ul style="list-style-type: none">• Involvement in recreation and other land use decisions• Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle.• Heightened sense of community satisfaction. Economic: <ul style="list-style-type: none">• Positive contributions to local-regional economic stability.• Increased desirability as a place to live or retire.• Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits.• Increased local tax revenue from visitors. Environmental: <ul style="list-style-type: none">• Greater retention of distinctive natural landscape features.• Increased resource stewardship and protection by users

Shepherd Ah-Nei Special Recreation Management Area – OHV Use Area (RMZ 1) (976 acres)		
Setting Prescriptions		
<p>Physical: Front country.</p> <ul style="list-style-type: none"> • mostly natural in appearance with structures limited to natural surface trails, fences, cattle guards, and stock tank/ troughs. Signs limited to route designations. Closed travel routes are blocked with buck and pole barricades. 	<p>Social: Front country.</p> <ul style="list-style-type: none"> • Group sizes less than 10, typically 5 or less per group. • Could encounter up to 25-50 persons per day on weekends, +/- 10 persons on weekdays. 	<p>Administrative: Front country.</p> <ul style="list-style-type: none"> • Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather. • Area accommodates multiple-use including grazing, OHV. • OHVs restricted to designated routes per travel management plan. • Day use only. • Target shooting prohibited, hunting allowed.
Management Actions and Allowable Use Decisions		
<p>Recreation and Visitor Services:</p> <ul style="list-style-type: none"> • Facilitate targeted recreation opportunities: <ul style="list-style-type: none"> – Manage to provide OHV riding opportunities for all levels of non-competitive riding vehicles 50 inches wide or less. – Hunting allowed in conformance with MTFWP regulations. – Implement current travel management decisions. • Maintain setting: <ul style="list-style-type: none"> – Restrict facilities development to OHV Use Area Parking area unless modified by RAMP. – Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage. • Health, safety, resource protection, user conflict resolution: <ul style="list-style-type: none"> – Close and restore all non-designated trails – Trapping prohibited. – No wood cutting. – No target shooting. • Special Recreation Permit criteria: <ul style="list-style-type: none"> – Applications for SRPs may be delayed or denied and activities may be relocated when environmental analysis identifies unacceptable levels of change to resources or conflicts with other users that would result from permitted activities. – Until completion of the RAMP SRP applications will be considered on an individual basis. 		<p>Other Programs:</p> <ul style="list-style-type: none"> • Surface Use Controls: <ul style="list-style-type: none"> • Oil and gas leasing, exploration and development would be allowed with an NSO stipulation • Range Management: • Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines. • Fire and Fuels Management: • Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat • Visual Resource Management: <ul style="list-style-type: none"> - Manage as Class II in RMZ 2 (3,664 acres), Class III in RMZ 1 (976 acres (OHV area))

Shepherd Ah-Nei Special Recreation Management Area - OHV Use Area (RMZ 1) (976 acres)

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- Specific SRP criteria will be developed in the RAMP.

Administrative:

- Designated uses for existing trails.
- All motorized/mechanized use limited to specifically designated trails & roads only.

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Shepherd Ah-Nei Special Recreation Management Area – Equestrian/Non-Motorized Use Area (RMZ 2) (3,664 acres)

Management Objectives:	The objective of area management is to continue to provide and enhance opportunities for mountain biking equestrian riding, and hiking local to the most populous urban area in Montana. This area meets the criteria for unique value as the only lands within the BIFO with an extensive and existing system and use. It meets the importance criteria for its close proximity the Montana's most populous urban area. (RMZ 2) has a developed parking area and equestrian trailhead and provides access to over XXX acres of open ponderosa pine savannah with trails along previously existing closed motor vehicle routes
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Outcomes

Primary Activities: <ul style="list-style-type: none"> Equestrian trail and cross country riding. Hiking Mountain biking Hunting 	Experiences: <ul style="list-style-type: none"> Developing skills and abilities Testing endurance Enjoying risk-taking adventure Enjoying the closeness of friends and family Escaping everyday responsibilities for awhile Enjoying having access to close-to-home outdoor amenities 	Benefits: <ul style="list-style-type: none"> Personal: <ul style="list-style-type: none"> Improved physical fitness Better health maintenance Restored mind from unwanted stress Greater cultivation of outdoor-oriented lifestyle Improved outdoor knowledge, skills, and self-confidence Greater environmental awareness and sensitivity More well-informed and responsible visitors Household and Community: <ul style="list-style-type: none"> Involvement in recreation and other land use decisions Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. Heightened sense of community satisfaction Economic: <ul style="list-style-type: none"> Positive contributions to local-regional economic stability. Increased desirability as a place to live or retire. Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. Increased local tax revenue from visitors Environmental: <ul style="list-style-type: none"> Greater retention of distinctive natural landscape features. Increased resource stewardship and protection by users
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Setting Prescriptions

Physical: Back and middle country. <ul style="list-style-type: none"> Mostly natural in appearance with structures limited to fences, cattle guards, and stock tank/ troughs. 	Social: Middle country. <ul style="list-style-type: none"> Group sizes less than 10, typically 5 or less per group. Could encounter up to 10-15 persons per day on weekends, +/- 5 persons on weekdays. 	Administrative: Front and middle country. <ul style="list-style-type: none"> Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather. Area accommodates multiple-use including grazing, OHV. OHVs restricted to designated routes per travel management plan. Day use only. Target shooting prohibited, hunting allowed.
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Shepherd Ah-Nei Special Recreation Management Area – Equestrian/Non-Motorized Use Area (RMZ 2) (3,664 acres)

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
 - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
 - Continue cooperation with the Backcountry Horseman group and other interested parties to protect and enhance riding experiences.
- Health, safety, resource protection, user conflict resolution:
 - Close and restore all non-designated trails, improve designated trails to ensure they meet current management standards
 - Trapping prohibited.
 - No wood cutting.
 - No target shooting.
- Special Recreation Permit criteria:
 - Applications for SRPs may be delayed or denied and activities may be relocated when environmental analysis identifies unacceptable levels of change to resources or conflicts with other users that would result from permitted activities.
 - Until completion of the RAMP SRP applications will be considered on an individual basis.

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as Class II in RMZ2 (3,664 acres), Class III in RMZ 1 (976 acres (OHV area))

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- Specific SRP criteria will be developed in the RAMP.
- Non-motorized, mechanized or un-mechanized multiple use trails may be developed as part of implementation level planning through a Recreation Area Management Plan (RAMP)

Administrative:

- Designated uses for existing trails.
- All motorized/mechanized use limited to specifically administrative use, including grazing permittees engaged in grazing maintenance work.

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Acton Special Recreation Management Area (3,697 acres)		
Management Objectives:		Objectives for the SRMA are to provide general unconfined recreational opportunities while protecting resources and controlling conflicts between user groups. This area meets the criteria for importance as a large block of undeveloped land proximate to Montana's most populous urban area. It provides opportunities for hiking, mountain biking, big game and upland bird hunting, and limited primitive camping. The area topography provides for expansive views of undeveloped/rural landscapes as well as ample visual screening allowing for use by multiple individuals or groups without significant disturbance or conflict.
Outcomes		
Primary Activities:	Experiences:	Benefits:
<ul style="list-style-type: none">• OHV on roads,• hiking,• wildlife watching• hunting for upland birds and big game,• mountain bike riding,• camping,• paint-ball games,• equestrian use• Extreme Sports	<ul style="list-style-type: none">• Enjoying frequent exercise• Access to a range of physical challenge, including high risk.• Escaping everyday responsibilities for a while• Enjoying easy access to diverse recreation• Developing skills, abilities and self-confidence• Enjoying nature• Autonomy• Socializing• Achievement• Learning• Escape pressures	<ul style="list-style-type: none">• Personal:<ul style="list-style-type: none">– Improved physical fitness– Better health maintenance– Restored mind from unwanted stress– Greater cultivation of outdoor-oriented lifestyle– Improved outdoor knowledge, skills, and self-confidence– Greater environmental awareness and sensitivity– More well-informed and responsible visitors• Household and Community:<ul style="list-style-type: none">– Involvement in recreation and other land use decisions– Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle.– Heightened sense of community satisfaction• Economic:<ul style="list-style-type: none">– Positive contributions to local-regional economic stability.– Increased desirability as a place to live or retire.– Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits.– Increased local tax revenue from visitors• Environmental:<ul style="list-style-type: none">– Greater retention of distinctive natural landscape features.– Increased resource stewardship and protection by users

Acton Special Recreation Management Area (3,697 acres)

Setting Prescriptions

Physical: Back and middle country.

- Mostly natural in appearance with structures limited to fences, cattle guards, and stock tank/ troughs. Signs limited to route designations. Closed travel routes are blocked with buck and pole barricades. Dispersed campsites located throughout area receive light use.

Social: Middle Country.

- Group sizes less than 10, typically 3 or less per group.
- Could encounter up to 20-30 persons per day on weekends, +/- 5 persons on weekdays.

Administrative: Backcountry.

- Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather.
- Area accommodates multiple-use including grazing.
- OHVs restricted to designated routes per travel management plan.
- This area can be accessed in the front country area by ordinary highway vehicles; middle and backcountry areas are accessible by 4-wheel drive and ATVs UTVs and motorcycles.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
 - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
 - Close and restore all non-designated trails, improve designated trails to meet current management standards
 - Trapping prohibited.
 - No wood cutting.
 - No target shooting.
- Special Recreation Permit criteria:
 - Applications for SRPs may be delayed or denied and activities may be relocated when environmental analysis identifies unacceptable levels of change to resources or conflicts with other users that would result from permitted activities.
 - Until completion of the RAMP SRP applications will be considered on an individual case-by-case basis.
- Develop mountain biking opportunities for a range of skill levels. Include cross-country and gravity fed (downhill) trails with appropriate facilities.

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as Class II in back and middle country, Class III in front country area.

Yellowstone River Corridor Special Recreation Management Area (6959 acres surface and minerals) - Main Stem River, RMZ 1

Management Objectives:	<p>The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.</p> <ul style="list-style-type: none">• Provide wildlife habitat• Protect historic, cultural, and scenic values.• Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources.• Provide dispersed recreation experiences. <p>The SRMA will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other values along the longest free-flowing river in the lower 48 states.</p>				
Outcomes					
Primary Activities:	<table><tr><td>Experiences:</td><td>Benefits:</td></tr><tr><td><ul style="list-style-type: none">• Boating• Fishing• Hiking• Hunting• Sightseeing• Viewing wildlife</td><td><ul style="list-style-type: none">• Personal:<ul style="list-style-type: none">– Improved physical fitness– Better health maintenance– Restored mind from unwanted stress– Greater cultivation of outdoor-oriented lifestyle– Improved outdoor knowledge, skills, and self-confidence– Greater environmental awareness and sensitivity– More well-informed and responsible visitors• Household and Community:<ul style="list-style-type: none">– Involvement in recreation and other land use decisions– Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle.– Heightened sense of community satisfaction• Economic:<ul style="list-style-type: none">– Positive contributions to local-regional economic stability.– Increased desirability as a place to live or retire.– Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits.– Increased local tax revenue from visitors• Environmental:<ul style="list-style-type: none">– Greater retention of distinctive natural landscape features.– Increased resource stewardship and protection by users</td></tr></table>	Experiences:	Benefits:	<ul style="list-style-type: none">• Boating• Fishing• Hiking• Hunting• Sightseeing• Viewing wildlife	<ul style="list-style-type: none">• Personal:<ul style="list-style-type: none">– Improved physical fitness– Better health maintenance– Restored mind from unwanted stress– Greater cultivation of outdoor-oriented lifestyle– Improved outdoor knowledge, skills, and self-confidence– Greater environmental awareness and sensitivity– More well-informed and responsible visitors• Household and Community:<ul style="list-style-type: none">– Involvement in recreation and other land use decisions– Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle.– Heightened sense of community satisfaction• Economic:<ul style="list-style-type: none">– Positive contributions to local-regional economic stability.– Increased desirability as a place to live or retire.– Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits.– Increased local tax revenue from visitors• Environmental:<ul style="list-style-type: none">– Greater retention of distinctive natural landscape features.– Increased resource stewardship and protection by users
Experiences:	Benefits:				
<ul style="list-style-type: none">• Boating• Fishing• Hiking• Hunting• Sightseeing• Viewing wildlife	<ul style="list-style-type: none">• Personal:<ul style="list-style-type: none">– Improved physical fitness– Better health maintenance– Restored mind from unwanted stress– Greater cultivation of outdoor-oriented lifestyle– Improved outdoor knowledge, skills, and self-confidence– Greater environmental awareness and sensitivity– More well-informed and responsible visitors• Household and Community:<ul style="list-style-type: none">– Involvement in recreation and other land use decisions– Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle.– Heightened sense of community satisfaction• Economic:<ul style="list-style-type: none">– Positive contributions to local-regional economic stability.– Increased desirability as a place to live or retire.– Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits.– Increased local tax revenue from visitors• Environmental:<ul style="list-style-type: none">– Greater retention of distinctive natural landscape features.– Increased resource stewardship and protection by users				

Yellowstone River Corridor Special Recreation Management Area (6959 acres surface and minerals) - Main Stem River, RMZ 1

Setting Prescriptions

Physical: Rural to Front country.

- Within ½ mile of paved/primary roads and highways.
- Character of the natural landscape considerably modified (agriculture, residential or industrial).
- Modern facilities such as campgrounds, group shelters, boat launches, and occasional exhibits

Social: Front country.

- 15-29 encounters/day off travel routes (e.g., campgrounds) and 30 or more encounters/day on travel routes.
- 13-25 people per group.
- Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.

Administrative: Front country.

- Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.
- Basic maps, staff infrequently present (e.g. seasonally, high use periods) to provide on-site assistance
- Basic user regulations at key access points. Minimum use restrictions

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
 - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
 - Close and restore all non-designated trails, improve designated trails to meet management standards
 - Trapping by permit only.
 - No wood cutting.
 - No target shooting.
- Special Recreation Permit criteria:
 - Until completion of the RAMP SRP applications will be considered on an individual case-by-case basis. The BLM will provide SRPs consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as Class II in back and middle country, Class III in front country area.

Yellowstone River Corridor Special Recreation Management Area (6959 acres surface and minerals) - Main Stem River, RMZ 1

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- Specific SRP criteria will be developed in the RAMP.
- Non-motorized, mechanized or un-mechanized multiple use trails may be developed as part of implementation level planning through a Recreation Area Management Plan (RAMP)

Administrative:

- Designated uses for existing trails.
- All motorized/mechanized use limited to specifically designated trails & roads only.

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Yellowstone River Corridor Special Recreation Management Area – Clark's Fork of the Yellowstone, RMZ 2 (3182 acres, surface and minerals)

<p>Management Objectives:</p>	<p>The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.</p> <ul style="list-style-type: none"> • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences. <p>The SRMA will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other values along the longest free-flowing river in the lower 48 states.</p>		
<p>Outcomes</p>			
<p>Primary Activities:</p> <ul style="list-style-type: none"> • Boating • Fishing • Hiking • Hunting • Sightseeing • Viewing wildlife 	<table border="1"> <tr> <td> <p>Experiences:</p> <ul style="list-style-type: none"> • Access to a range of physical challenge • Escaping everyday responsibilities for a while • Enjoying easy access to diverse recreation • Developing skills, abilities and self-confidence • Enjoying nature • Autonomy • Socializing </td><td> <p>Benefits:</p> <ul style="list-style-type: none"> • Personal: <ul style="list-style-type: none"> – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: <ul style="list-style-type: none"> – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: <ul style="list-style-type: none"> – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: <ul style="list-style-type: none"> – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users </td></tr> </table>	<p>Experiences:</p> <ul style="list-style-type: none"> • Access to a range of physical challenge • Escaping everyday responsibilities for a while • Enjoying easy access to diverse recreation • Developing skills, abilities and self-confidence • Enjoying nature • Autonomy • Socializing 	<p>Benefits:</p> <ul style="list-style-type: none"> • Personal: <ul style="list-style-type: none"> – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: <ul style="list-style-type: none"> – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: <ul style="list-style-type: none"> – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: <ul style="list-style-type: none"> – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users
<p>Experiences:</p> <ul style="list-style-type: none"> • Access to a range of physical challenge • Escaping everyday responsibilities for a while • Enjoying easy access to diverse recreation • Developing skills, abilities and self-confidence • Enjoying nature • Autonomy • Socializing 	<p>Benefits:</p> <ul style="list-style-type: none"> • Personal: <ul style="list-style-type: none"> – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: <ul style="list-style-type: none"> – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: <ul style="list-style-type: none"> – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: <ul style="list-style-type: none"> – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users 		

Yellowstone River Corridor Special Recreation Management Area – Clark's Fork of the Yellowstone, RMZ 2 (3182 acres, surface and minerals)

Setting Prescriptions

Physical: Rural to Front country.

- Within ½ mile of paved/primary roads and highways.
- Character of the natural landscape considerably modified (agriculture, residential or industrial).
- Modern facilities such as campgrounds, group shelters, boat launches, and occasional exhibits

Social: Front country.

- 15-29 encounters/day off travel routes (e.g., campgrounds) and 30 or more encounters/day on travel routes.
- 13-25 people per group.
- Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.

Administrative: Front country.

- Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.
- Basic maps, staff infrequently present (e.g. seasonally, high use periods) to provide on-site assistance
- Basic user regulations at key access points. Minimum use restrictions

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
 - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
 - Close and restore all non-designated trails, improve designated trails to management standards
 - Trapping by permit only.
 - No wood cutting.
 - No target shooting.
- Special Recreation Permit criteria:
 - Until completion of the RAMP SRP applications will be considered on an individual basis. The BLM will provide SRPs consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as Class II in back and middle country, Class III in front country area.

**Yellowstone River Corridor Special Recreation Management Area - Clark's Fork of the Yellowstone, RMZ 2
(3182 acres, surface and minerals)**

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- Specific SRP criteria will be developed in the RAMP.
- Non-motorized, mechanized or un-mechanized multiple use trails may be developed as part of implementation level planning through a Recreation Area Management Plan (RAMP)

Administrative:

- Designated uses for existing trails.
- All motorized/mechanized use limited to specifically designated trails & roads only.

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate

Mill Creek/Bundy Special Recreation Management Area		
Management Objectives:	<p>The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities.</p> <ul style="list-style-type: none">• Provide wildlife habitat• Protect historic, cultural, and scenic values.• Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources.• Provide dispersed recreation experiences.	
Outcomes		
Primary Activities: <ul style="list-style-type: none">• Hiking• Running• Cross country skiing• Bird watching• Picnicking• Fishing• Exercising pets• Scenery and wildlife viewing• Yellowstone River access	Experiences: Enjoying: <ul style="list-style-type: none">• Solitude• Family Recreation• Fishing• Exercise• Scenery• Escaping everyday responsibilities for awhile• having access to close-to-home outdoor amenities	Benefits: Personal: <ul style="list-style-type: none">• Improved physical fitness• Restored mind from unwanted stress• Greater sense of overall wellness• Enhanced cultural resource stewardship ethic Household and Community: <ul style="list-style-type: none">• Improved quality of life• Greater awareness of and appreciation for our natural landscapes• Greater appreciation for the area and outdoor-oriented lifestyle• Involvement in recreation and other land use decisions• Increased desirability as a place to live or retire. Economic: <ul style="list-style-type: none">• Positive contributions to local-regional economic stability• Increased work productivity• Reduced health maintenance costs Environmental: <ul style="list-style-type: none">• Increased resource stewardship and protection by communities

Mill Creek/Bundy Special Recreation Management Area

Setting Prescriptions

Physical:

- The area is Rural. The surrounding character of the landscape is considerably modified (20-40 acre ranchettes, communications towers and two private in-holdings within the boundaries). The most natural area occurs along the western edge of the SRMA with views of the urban/industrial core area of Billings easily accessible. The historic/rustic Will James cabin lies on the northern edge. Facilities include an unpaved parking lot, vault toilet and kiosk. One caretakers' residence could be allowed but could not disturb more than 1/2 acre nor change the VRM, Recreational Opportunity Spectrum (ROS) or ACEC Scenic values.

Social:

- Mostly small groups of 1-5 with occasional large group activities
- Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.

Administrative:

- Day use only
- Closed to fireworks discharge
- OHV use limited to designated routes only
- Closed to driving off road/cross country.
- Compliance with terms of conservation easements

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Implement current travel management decisions.
- Maintain setting:
 - Developments would be managed to VRM class III
- Health, safety, resource protection, user conflict resolution
 - Limited to OHV designations
 - Open to equestrian use
 - Open to rock climbing
 - Open to hang gliding
 - Open to hunting No fuel-wood collection
 - No fireworks
 - The area may be closed during high fire danger
- Special Recreation Permit criteria:
 - None

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as VRM class III
- Cultural Resource Management
 - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management

Mill Creek/Bundy Special Recreation Management Area

Implementation Decisions

Management:

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - A recreation area management plan (RAMP) will be developed.
 - May be divided in to RMZs during RAMP development.
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences.
- Health, safety, resource protection, user conflict resolution
 - Trapping permitted.
- Special Recreation Permit criteria:
 - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. Outfitters and other recreational users will be required to use weed-free feed on BLM land for their livestock as a part of the integrated weed management program.

Administrative:

- All motorized/mechanized use limited to specifically designated routes

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate

Pryor Mountain TMA Special Recreation Management Area

		The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities.	
Management Objectives:		<ul style="list-style-type: none">• Provide wildlife habitat• Protect historic, cultural, and scenic values.• Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources.• Provide dispersed recreation experiences.	
Outcomes			
Primary Activities: <ul style="list-style-type: none">• Hiking• Running• Cross country skiing• Bird watching• Picnicking• Fishing• Exercising pets• Scenery and wildlife viewing• Wild Horse viewing• Caving• camping	Experiences: Enjoying: <ul style="list-style-type: none">• Solitude• Family Recreation• Fishing• Exercise• Scenery• Escaping everyday responsibilities for awhile• having access to outdoor amenities	Benefits: Personal: <ul style="list-style-type: none">• Improved physical fitness• Restored mind from unwanted stress• Greater sense of overall wellness• Enhanced cultural resource stewardship ethic Household and Community: <ul style="list-style-type: none">• Improved quality of life• Greater awareness of and appreciation for our natural landscapes• Greater appreciation for the area and outdoor-oriented lifestyle• Involvement in recreation and other land use decisions• Increased desirability as a place to live or retire. Economic: <ul style="list-style-type: none">• Positive contributions to local-regional economic stability• Increased work productivity• Reduced health maintenance costs Environmental: <ul style="list-style-type: none">• Increased resource stewardship and protection by communities	
Setting Prescriptions			
Physical: <ul style="list-style-type: none">• The area is remote. The surrounding character of the landscape is a considerably natural in condition.	Social: <ul style="list-style-type: none">• Mostly small groups of 1-5 with occasional large group activities• Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.	Administrative: <ul style="list-style-type: none">• Day use and overnight use• Closed to fireworks discharge• OHV use limited to designated routes only• Closed to driving off road/cross country.• Compliance with terms of conservation easements and IMP	
Management Actions and Allowable Use Decisions			

Pryor Mountain TMA Special Recreation Management Area

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - Implement current travel management decisions.
- Maintain setting:
 - Developments would be managed to VRM class III
- Health, safety, resource protection, user conflict resolution
 - Limited to OHV designations
 - Open to equestrian use
 - Open to rock climbing, caving
 - Open to hang gliding
 - Open to hunting
 - No fuel-wood collection
 - No fireworks
 - The area may be closed during high fire danger
- Special Recreation Permit criteria:
 - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. Outfitters and other recreational users will be required to use weed-free feed on BLM land for their livestock as a part of the integrated weed management program.

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as VRM Class II inside ACECs and LWCs and VRM Class I inside WSAs. .

Pryor Mountain TMA Special Recreation Management Area

Implementation Decisions

Management:

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - A recreation area management plan (RAMP) will be developed.
 - May be divided in to RMZs during RAMP development.
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences.
- Health, safety, resource protection, user conflict resolution
 - Trapping permitted.
 - SRPs allowed

Administrative:

- All motorized/mechanized use limited to specifically designated routes

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Extensive Recreation Management Areas:

Mill Creek/Bundy Extensive Recreation Management Area (34,239 acres)		
Management Objectives	<p>The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities.</p> <ul style="list-style-type: none">• Provide wildlife habitat• Protect historic, cultural, and scenic values.• Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources.• Provide dispersed recreation experiences.	
Outcomes		
<p>Primary Activities:</p> <ul style="list-style-type: none">• Hiking• hunting• Bird watching• Picnicking• Fishing• Exercising pets• Equestrian use• Scenery and wildlife viewing• Yellowstone River access	<p>Experiences:</p> <p>Enjoying:</p> <ul style="list-style-type: none">• Solitude• Family Recreation• Hunting• Fishing• Exercise• Scenery• Escaping everyday responsibilities for awhile• having access to close-to-home outdoor amenities	<p>Benefits:</p> <p>Personal:</p> <ul style="list-style-type: none">• Improved physical fitness• Restored mind from unwanted stress• Greater sense of overall wellness• Enhanced cultural and natural resource stewardship ethic <p>Household and Community:</p> <ul style="list-style-type: none">• Improved quality of life• Greater awareness of and appreciation for our natural landscapes• Greater appreciation for the area and outdoor-oriented lifestyle• Involvement in recreation and other land use decisions• Increased desirability as a place to live or retire. <p>Economic:</p> <ul style="list-style-type: none">• Positive contributions to local-regional economic stability• Increased work productivity• Reduced health maintenance costs <p>Environmental:</p> <ul style="list-style-type: none">• Increased resource stewardship and protection by communities
Setting Prescriptions		

<p>Physical:</p> <ul style="list-style-type: none"> • Mostly natural in appearance with structures limited to fences, cattle guards, and stock tank/ troughs. Signs limited to route designations. 	<p>Social:</p> <ul style="list-style-type: none"> • Mostly small groups of 1-5 with occasional large group activities • Could encounter 1-10 persons per day on weekends and 1-5 persons during week days. 	<p>Administrative:</p> <ul style="list-style-type: none"> • Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use. • Basic maps, staff infrequently present (e.g. seasonally, high use periods) to provide on-site assistance • Basic user regulations at key access points. Minimum use restrictions • Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather. • Area accommodates multiple-use including grazing. • OHVs restricted to designated routes per travel management plan. • This area can be accessed in the front country area by ordinary highway vehicles; middle and backcountry areas are accessible by 4-wheel drive and ATVs, UTVs, and motorcycles. Land access can be restricted by private land ownership
<p>Management Actions and Allowable Use Decisions</p>		
<p>Recreation and Visitor Services:</p> <ul style="list-style-type: none"> • Facilitate targeted recreation opportunities: <ul style="list-style-type: none"> – Implement current travel management decisions. • Maintain setting: <ul style="list-style-type: none"> – Developments would be managed to VRM Class III • Health, safety, resource protection, user conflict resolution <ul style="list-style-type: none"> – Limited to OHV designations – Open to equestrian use – Open to rock climbing – Open to hang gliding – Open to hunting – No fuel-wood collection – No fireworks – The area may be closed during high fire danger • Special Recreation Permit criteria: <ul style="list-style-type: none"> – None 	<p>Other Programs:</p> <ul style="list-style-type: none"> • Surface Use Controls: <ul style="list-style-type: none"> – Oil and gas leasing, exploration and development would be allowed with an NSO stipulation • Range Management: <ul style="list-style-type: none"> – Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines. – Fire and Fuels Management: <ul style="list-style-type: none"> – Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat • Fire and Fuels Management: <ul style="list-style-type: none"> – Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat • Cultural Resource Management <ul style="list-style-type: none"> – Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management • Visual Resource Management: <ul style="list-style-type: none"> – Manage as Class II and Class III. 	

17 Mile Recreation Area (2,080 acres)	
Management Objectives:	<p>The goal is to manage these lands for a sustainable visitor experience in mostly primitive and natural landscapes concurrent with other management priorities.</p> <ul style="list-style-type: none"> • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.
Management Actions and Allowable Use Decisions	
<p>Recreation and Visitor Services:</p> <ul style="list-style-type: none"> • Facilitate targeted recreation opportunities: <ul style="list-style-type: none"> – A recreation area management plan (RAMP) will be developed. – Hunting allowed in conformance with MTFWP regulations. – Implement current travel management decisions. • Maintain setting: <ul style="list-style-type: none"> – Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences. • Health, safety, resource protection, user conflict resolution <ul style="list-style-type: none"> – Trapping permitted. • Special Recreation Permit criteria: <ul style="list-style-type: none"> – The BLM will provide SRPs for commercial outfitting and guiding consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. 	<p>Other Programs:</p> <p>Interdisciplinary plans would be developed only when and where necessary to address emerging issues affecting public lands users or resources.</p> <ul style="list-style-type: none"> • Surface Use Controls: <ul style="list-style-type: none"> – Oil and gas leasing, exploration and development would be allowed with an NSO stipulation • Range Management: <ul style="list-style-type: none"> – Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines. • Fire and Fuels Management: <ul style="list-style-type: none"> – May be subject to closure during high fire danger – May be subject to fire and fuels management activities to restore and maintain rangeland health, reduce fire hazards, and maintain wildlife habitat. • Visual Resource Management: <ul style="list-style-type: none"> – Manage as Class III

Horsethief Extensive Recreation Management Area (12,261 acres)

Management Objectives:	<p>The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities.</p> <ul style="list-style-type: none"> • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.
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Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
 - A recreation area management plan (RAMP) will be developed.
 - Hunting allowed in conformance with MTFWP regulations.
 - Implement current travel management decisions.
- Maintain setting:
 - Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences.
- Health, safety, resource protection, user conflict resolution
 - Trapping permitted.
- Special Recreation Permit criteria:
 - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
 - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
 - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
 - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
 - Manage as Class III.

Asparagus Point Recreation Management Area (158 acres)	
Management Objectives:	<p>The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities.</p> <ul style="list-style-type: none"> • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.
Management Actions and Allowable Use Decisions	
<p>Recreation and Visitor Services:</p> <ul style="list-style-type: none"> • Facilitate targeted recreation opportunities: <ul style="list-style-type: none"> – A recreation area management plan (RAMP) will be developed. – Hunting allowed in conformance with MTFWP regulations. – Implement current travel management decisions. • Maintain setting: <ul style="list-style-type: none"> – Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences. • Health, safety, resource protection, user conflict resolution <ul style="list-style-type: none"> – Trapping permitted. • Special Recreation Permit criteria: <ul style="list-style-type: none"> – The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. 	<p>Other Programs:</p> <ul style="list-style-type: none"> • Surface Use Controls: <ul style="list-style-type: none"> – Oil and gas leasing, exploration and development would be allowed with an NSO stipulation • Range Management: <ul style="list-style-type: none"> – Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines. – Close to grazing the floodplain north and east of the access road. (approximately 26 acres) • Fire and Fuels Management: <ul style="list-style-type: none"> – Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat • Visual Resource Management: <ul style="list-style-type: none"> – Manage as Class III.

South Hills Recreation Management Area (1,357 acres)

Management Objectives:	<p>The goal is to manage these lands for a variety of sustainable visitor experiences concurrent with other management priorities.</p> <ul style="list-style-type: none"> • Provide recreational opportunities within the Urban Interface area. • Minimize conflicts with adjacent subdivisions. • Provide dispersed recreation experiences. • Mitigate soil erosion on steep slopes. • Provide wildlife habitat.
Management Actions and Allowable Use Decisions	
<p>Recreation and Visitor Services:</p> <ul style="list-style-type: none"> • Facilitate targeted recreation opportunities: <ul style="list-style-type: none"> – A recreation area management plan (RAMP) will be developed. – Hunting allowed in conformance with MTFWP regulations. – Implement current travel management decisions. • Maintain setting: <ul style="list-style-type: none"> – Manage these lands for a variety of sustainable visitor experiences in an urban interface environment. This goal would allow BLM to provide dispersed recreation opportunities and reduce conflicts with adjacent subdivision. • Health, safety, resource protection, user conflict resolution <ul style="list-style-type: none"> – Trapping permitted. – Firearms prohibited. – OHVs limited to two-wheeled motorcycles – Day Use Area only. • Special Recreation Permit criteria: <ul style="list-style-type: none"> – The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. 	<p>Other Programs:</p> <ul style="list-style-type: none"> • Surface Use Controls: <ul style="list-style-type: none"> – Oil and gas leasing, exploration and development would be allowed with an NSO stipulation • Range Management: <ul style="list-style-type: none"> – Allotment 5517, Southland Estates – Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines. • Fire and Fuels Management: <ul style="list-style-type: none"> – Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat • Visual Resource Management: <ul style="list-style-type: none"> – Manage as Class III. • Lands and Realty <ul style="list-style-type: none"> – Valid ROW(s) for waterline(s) – New utility ROWs would be underground.

Special Recreation Management Areas (SRMA), Extensive Recreation Management Areas (ERMA) by Alternatives								
SRMAs	Alternative A	Acres	Alternative B	Acres	Alternative C	Acres	Alternative D	Acres
Four Dances Natural Area ACEC	X	784	X	784	X	784	X	784
Sundance Lodge Recreation Area	X	387	X	387	X	387	X	387
Shepherd Ah-Nei		0	X	4,680	X	4,680	X	4,680
Acton Recreation Area		0	X	3,697	X	3,697	X	3,697
Asparagus Point		0		0	X	158	X	158
Bundy Island		0	X	98		0		0
Horsethief TMA		0			X	12,261	X	12,261
Mill Creek/Bundy TMA		0		0	X	34,239		0
Pryor Mountain TMA		0	X	81,277	X	81,277	X	81,277
17 Mile		0		0	X	2,080		0
South Hills TMA		0		0	X	1,357	X	1,357
Yellowstone River Corridor		0		0	X	6,311	X	6,311
# SRMAs / Acres	2 SRMAs / 1,171 acres		6 SRMAs / 90,783 acres		11 SRMAs / 147,181 acres		9 SRMAs / 110,862 acres	
ERMAs								
Shepherd Ah-Nei	X	4,680		0		0		0
Acton Recreation Area	X	3,697		0		0		0
South Hills TMA	X	1,357	X	1,357		0		0
Horsethief TMA	X	12,261	X	12,261		0		0
17 Mile	X	2,080	X	2,080		0	X	2,080
Asparagus Point	X	158	X	158		0		0
Yellowstone River Corridor		0	X	6,213		0		0
Mill Creek Area		0		0		0	X	34,239
# ERMAs / Acres	7 ERMAs / 105,460 acres		5 ERMAs / 7,668 acres		0 ERMAs / 0 acres		2 ERMAs / 36,319 acres	
Non-Designated Areas (public lands not identified as SRMAs or ERMAs)	All lands not designated as SRMAs will be managed as ERMAs (327,518 acres)		327,421 acres		288,495 acres		322,418 acres	

Appendix O: **Billings Field Office Travel Management Plan**

A section of the Billings and Pompeys Pillar National Monument Resource Management Plan

UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT

The Bureau of Land Management (BLM) manages travel and transportation on public lands in accordance with existing laws, regulations and policies. This Travel Management Plan addresses 434,154 surface acres of BLM administered public lands located in south central Montana and 4,298 acres in Big Horn County, Wyoming which are managed by the Billings Field Office.

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O. Billings Field Office Travel Management Plan

O.1 Introduction

Comprehensive travel management addresses all resource use aspects, such as recreational, traditional, casual, agricultural, commercial and educational) and accompanying modes and conditions of travel on public lands. During the development of the Resource Management Plan (RMP), the Billings Field Office (BiFO) of the Bureau of Land Management (BLM) utilized a systematic process to collect and compile data necessary for the thorough evaluation, analysis and/or designation of motorized and non-motorized routes (using the Route Evaluation Tree Process®). The process included a combination of utilizing resource data, geospatial analysis, route inventories and interdisciplinary team assessments/evaluations.

Stakeholder input was sought at the beginning of the route designation process through a series of public travel management workshops. The BLM also worked with Cooperating Agencies and a Resource Advisory Council (RAC)-appointed sub-committee.

O.2 Background

The BLM manages travel and transportation on public lands in accordance with existing laws, regulations and policies. Program policy guidance provides direction to the field for management and administration of all aspects of the travel management program. This guidance is developed at the National, State and District Office level, and includes regulations, manuals, handbooks, Strategic Action Plans, Instruction Memorandums and Information Bulletins. The Billings Field Office Travel Management program will support the accomplishment of management objectives for all resource programs. Within this context, the Billings Field Office will identify a transportation system that supports the agency's mission, management of land and resource programs and their goals and objectives, and provides for appropriate public and administrative access. The BLM's present transportation network is largely inherited, created from past resource uses and public access patterns.

The Billings Field Office will use a systematic process that considers the unique resource issues and social environments within each individual Travel Management Area (TMA) and integrate concepts of habitat connectivity into OHV planning to minimize habitat fragmentation.

Since comprehensive travel management addresses all resource use aspects (such as traditional, recreational, casual, agricultural, commercial, and educational) and accompanying modes and conditions of travel on public lands, it is not limited solely to motorized or off-highway activities.

O.3 Management Considerations and Assumptions

In general, the Billings Field Office will manage access to balance public use, protect public land resources, promote safety for all public land users, and minimize conflicts among users. It will accomplish this by the use of partnerships with other land-managing agencies, local governments, communities, and interest groups through a balanced approach, so as to protect public lands by minimizing impacts and resources while providing opportunities for the safe use and enjoyment for all. Specific considerations include the following:

- Whereas a comprehensive interdisciplinary approach to travel and transportation management incorporates the concerns and needs of multiple programs, the recreation program has a specific need to recognize and manage motorized recreational use of off-highway vehicles (OHVs) and non-motorized travel, such as foot, equestrian, and non-motorized mechanical travel.
- The planning process must consider and address the full range of various modes of travel on public lands, not just motorized access needs. An understanding of the regional supply and demand of recreational opportunities and access needs is important in designating a system of roads, primitive roads, trails, and areas for specific recreation and other uses.
- Travel and transportation management (TTM) is a comprehensive approach to on-the-ground management and administration of travel and transportation networks of roads, primitive roads, trails, and areas. TTM consists of implementation of travel and transportation planning decisions, route inventory and mapping, signing area and route designations, education and interpretation, law enforcement, easement acquisition, monitoring activities, and other measures necessary for providing access to and across public lands for a wide variety of uses (including recreational, traditional, authorized, commercial, educational, and for other travel and transportation purposes), as well as all forms of motorized and non-motorized access or use, such as foot, pack stock or animal-assisted travel, mountain bike, off-highway vehicle, and other forms of transportation.
- A specific management consideration is in regards to Revised Statute 477 claims:
Section 8 of the Mining Act of 1866 provided that: "... and be it further enacted, that the Right-of-Way for the construction of highways over public lands, not reserved for public uses, is hereby granted." The statute was self-enacting, that is, rights being established by "construction" of a "highway" on unreserved public lands, without any form or acknowledgement by the Federal Government. This section of the statute was later re-codified as Revised Statute 2477. R.S. 2477 was repealed by passage of FLPMA on October 21, 1976 with a savings provision for rights established prior to repeal. However, it was unclear which rights-of-way had actually been established.
- The existing motorcycle routes in the Elk Basin Area within Sub-Region III (Silver Tip) of the Cottonwood/Weatherman Draw TMA would continue to be available for motorcycle use and decisions are deferred until the Cottonwood/Weatherman Draw TMA Implementation Plan is completed, if not already addressed through other RMP

implementation actions relating to ongoing resource concerns (sage grouse habitat, soil erosion concerns, etc.).

A travel management plan is not intended to provide evidence bearing on or addressing the validity of any R.S. 2477 assertions. R.S. 2477 rights are now determined through a legal process that is entirely independent of the BLM's planning process. Consequently, BLM does not, and cannot, take into consideration R.S. 2477 assertions or evidence. Travel management planning is founded on an independently determined purpose and need that is based on resource uses and associated access to public lands and waters. At such time as a court decision is made on R.S. 2477 assertions, the BLM will adjust its travel routes accordingly, if necessary.

- Motorized travel on BLM-administered land (outside of established TMAs) would be limited to existing roads and trails. Measureable limits of change that would occur to the resource as a result of these travel modes would include indicators based on Land Health Standards, accelerated soil erosion and/or other resource concerns and potential for natural rehabilitation. Site specific travel planning would be initiated if those limits are exceeded.
- Modifications to a transportation network (routes, re-routes or closures) in the planning area where travel is limited to existing roads and trails may be made through activity-level planning.
- Cooperatively develop public outreach programs to promote trail etiquette, environmental ethics and a responsible-use stewardship ethic (e.g., Tread Lightly, Leave No Trace, etc.).
- BLM would continue to coordinate with MT FWP in the Block Management program, or other access agreements with other landowners, as appropriate. Designated motorized routes would conform with seasonal travel limitations, based on annual block management agreements, as determined by the authorized officer on a case-by-case basis
- Administrative access would limit motorized use to BLM-authorized use only. BLM employees, permittees, contractors, personnel from other agencies and other motorized access needs authorized by the authorized officer, would be allowed for resource management, maintenance, inventory, monitoring, or compliance purposes. Public use on administrative access routes would be limited to non-motorized access.
- Motorized wheeled cross-country travel to conduct BLM-authorized activities would require prior authorization
- Upon project completion, roads used for commercial or administrative access on BLM-administered lands would be reclaimed, unless the route provides specific benefits for public access, minimizes impacts to the resource and would be considered on a case-by-case basis.

- The BLM may close or restore unauthorized, user created roads and trails to prevent resource damage.
- Motorized off-road travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle for emergency operations.
- Special recreation permits for motorized events, competitive events, or organized group activities would be considered and addressed through site-specific analysis.
- Motorized off-road big game retrieval would be authorized by the Field Manager on a case-by-case basis for individuals with a disabled hunter access permit (issued by FWP). Stipulations or limitations would be included in the authorization.
- Oil and gas activities would comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel. (CSU).
- By BLM Manual 6330, WSAs do not allow for new surface disturbances and there is no cross-country OHV use. Use is restricted to the actual tread width.
- BLM would manage to reduce open road densities in big game winter and calving ranges where they exceed 1.0 miles/square mile.
- Snowmobile use in the planning area would be allowed, except where restricted, and would subject to the following restrictions: avoid locations where wind or topographic conditions may have reduced snow depth and create situations where damage to vegetation or soils would occur, or where vegetation is taller than the protective snow cover. Ecologically sensitive areas would be closed to snowmobiling if resource damage caused or exacerbated by snowmobile activity is found to be occurring in these areas.
- Where off-highway vehicles are causing or would cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability or other authorized uses, or other resources, the affected areas would be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence.
- Not all routes would be designated through the RMP. Some routes lie within 149352.6 acres of lands which are outside of the Travel Management Areas (282404.5 acres) and which are deferred until after the TMAs are acted on (within 5 years of the RMP being signed) since these have a lower priority in management concerns. These routes are managed as "existing" and will not be evaluated in this Resource management Plan. The discussion which follows addresses only the routes, areas, and impacts on the lands within the TMAs.
- A selected number of single-track motorized trails in Elk Basin were designated solely for the use by Motorcycles and were analyzed through a site-specific

NEPA process. The remainder of the area and a multitude of single-track motorcycle trails are currently under review for Sage- Grouse management considerations, and the ultimate decision on all of these routes will be set by these considerations and addressed through the Cottonwood/Weatherman Draw TMA Implementation Plan.

- Non-motorized recreational trails would be considered during the development of SRMA management plans and travel management plans (refer to Recreation/Visitor Services section).

Table O-1: RECREATION EFFECTS MATRIX – GROUND BASED ACTIVITIES

> Recreation Activity > ↓ Factors of interest to resource managers* ↓	Hiking/back-packing, trail running	Horseback riding, horse-packing	Mountain biking	Motorcycle riding (off-pavement)	4-wheeled OHV riding
Weight applied to physical & biological setting (affects soil compaction potential)	Weight of hiker, +up to 60 lb pack on extended trips	Weight of rider, +pack ~100 lbs, +horse ~900-1200 lbs	Weight of rider & day pack, +bicycle ~25-40 lbs	Weight of rider, +motorcycle~175-275 lbs +any extra gear or supplies	Weight of rider, +OHV ~400-700 lbs +any extra gear or supplies
Power applied to physical & biological setting (affects soil displacement potential)	1 "human power"	1 horsepower	1 "human power"	25-55 horsepower	30-60 horsepower
Estimated speed range (can affect wildlife, other recreationists, distance traveled)	2-4 mph walking/hiking ~10 mph running	3-5mph	5-25 mph, mostly slower uphill, can be quite fast downhill	Typically 15-35 mph Capable of 70 mph+ Varies with trail/road conditions	Typically 10-30 mph Capable of 70 mph+ Varies with trail/road conditions
Daily Trip Length	~1-10 miles	~4-15 miles	~10-30 miles	~25-50 miles	~25-50 miles
Track Width			~4"	~6"	~48"
Trail Width Standards	12"-24"	18"-24"	18"-24"	24"	48"- 60"
Interface with, and effects on physical and biological setting	2 lug sole hiking boots, may use 1-2 trekking poles. Footfalls, pole tip placements	4 horse hooves, can apply locally heavy impacts and pressure to trail substrate	2 tires ~3" wide, ~4" track, roll across terrain. Can lose traction/skid under power or braking, especially on slopes or in corners	2 tires ~5" wide, ~6" track, roll across terrain. Can lose traction/skid under power or braking, especially on slopes or in corners	4 tires 7-12" wide, ~48" track, roll across terrain. Can lose traction/skid under power or braking, especially on slopes or in corners
Emissions and waste products	Human waste if not managed properly. Potential litter/garbage/fire rings	Human waste if not managed properly. Potential litter/garbage/fire rings Horse dung and urine	Human waste if not managed properly. Potential litter/garbage/fire rings	Human waste if not managed properly. Potential litter/garbage/fire rings Exhaust gases (CO, CO ₂ , NOX), potential for spilled or leaked fuel & lubricants Motor sounds	Human waste if not managed properly. Potential for litter/garbage/fire rings Exhaust gases (CO, CO ₂ , NOX), potential for spilled or leaked fuel & lubricants Motor sounds

*These factors affect average per capita resource impacts that popular forms of wildland recreation incur in recreation settings. These factors also help guide decisions on where each kind of use can be accommodated, visitor capacity and the level of site hardening and mitigation necessary to protect resources.

O.4 Route Designation Process – Overview

The Route designation process was broken into two separate components: a designated non-motorized trail system –found throughout the FO, and the designated motorized system – those vehicle routes within TMAs. The BLM recognizes that additional routes of both kinds are located throughout the FO which have not been inventoried and has included steps for modifications to the travel system if necessary.

A specific note is included here that all designated motorized routes, whether open or restricted (closed to all motorized use or for only administrative use purposes) are also available for non-motorized travel, whether designated as non-motorized trails or not.

O.4.1 Developing and Defining Travel Management Areas (TMAs)

The purpose of delineating TMAs is to provide more locale-specific travel management guidance to be considered during the route evaluation, designation and implementation. This process is designed to improve the BiFO's ability to protect various resource values by minimizing impacts and provide a more balanced range of motorized and non-motorized opportunities throughout the planning area.

The RMP would establish 11 TMAs within the planning area. Specific management objectives were defined for each TMA, consistent with the overall desired outcomes for travel management. After evaluating routes within each TMA (see route evaluation/assessment section below), consistent with the management objectives, acceptable modes and conditions of travel for each TMA were identified in the RMP as allowable uses. However the travel-specific decisions (route designations) are implementation-level decisions. The decisions for each of the 11 individual Travel Management Areas are considered to be 11 separate decisions. Travel management outside of the 11 TMAs would continue to be limited to existing roads and trails and in accordance with the RMP ROD until specific designations of roads and trails can be made in these areas within five years of the ROD being signed.

In developing and defining the TMAs, the following components were addressed:

- a. Management units developed in the plan;
- b. Consistency with resource program goals and objectives;
- c. Primary modes of travel;
- d. Objectives for allowing travel in the defined area;
- e. Setting characteristics that are to be maintained (including recreation opportunity system and VRM settings); and
- f. Areas with large, intact blocks of public land currently accessible to the public.

O.4.2 Route Inventory

The BiFO began collecting route inventory information in 2005, in an effort to establish a route baseline for use in the planning process. The BiFO used a variety of methods to inventory existing routes/ways within the planning area for consideration, including digitized route information while traveling on off-highway vehicles or by foot using GPS, other data provided by BLM staff, map and orthophoto data and staff and cooperator knowledge of existing routes. Digitized lines were overlaid with various road layers (county, USGS 1:100 data) and other geospatial data-sets (e.g., range improvement fence line data, ROW corridors, seismic lines, overhead powerlines, etc.) and line discrepancies were reviewed and resolved. Route data was then verified and reviewed by an interdisciplinary team in preparation of the next phase - route evaluation/assessment process.

O.4.3 Route Evaluation/Assessment

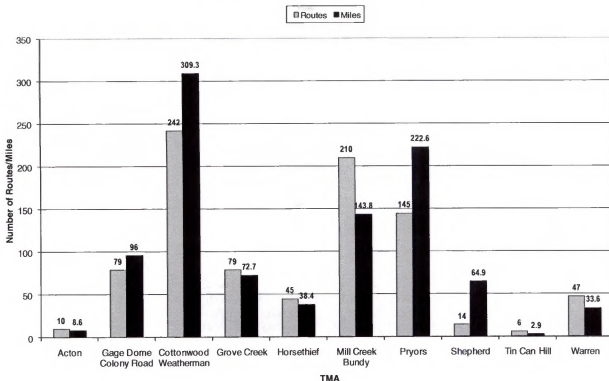
The Route Evaluation Tree Process® (Advanced Resource Solutions, Inc.) and its associated software/database is a tool designed to assist land management agencies with the systematic, neutral collection and compilation of data necessary for the thorough evaluation, analysis and/or designation of motorized and non-motorized routes. The process addressed a range of issues regarding travel planning, including: planning policies and regulations, sensitive resources (biological, physical and cultural), commercial access needs, and recreational access preferences. Additionally, the Route Evaluation Tree Process® is designed to integrate the desired outcomes (goals and objectives) that were developed based on the issues and opportunities unique to the specific travel planning (geographic) area, with the range of management options to work toward achieving those desired outcomes. The process also allows for the incorporation of stakeholder comments to be addressed as part of the route evaluations/assessments.

In order to effectively address the many facets of route evaluation and transportation planning, the Route Evaluation Tree Process® is divided into a series of assessment tasks/steps which provides for systematic collection of data needed to evaluate and designated routes through an interdisciplinary assessment.

The process utilizes a Route Evaluation Tree program that helps guide the interdisciplinary team through a series of questions and associated project-specific drop-down menus that assist with addressing compliance with a variety of applicable statutory requirements that principally address the need to protect identified resource values, as well as commercial/administrative access needs and public recreational access issues. The questions and menus allow both for narrowly focused route-by-route assessments, as well as landscape-scale assessments in an effort to consider the broader route network and cumulative effects.

The process incorporates consideration and selection of measures designed to eliminate, minimize or mitigate resource impacts, based on resource values present. The result of the process is the creation of different route network alternatives that utilize different thresholds of acceptable impact to address the identified issues. The information considered and evaluated for each route is captured in a data-base and used for analysis.

Figure 4.1a: Summary of Route/Miles by TMA



O.5 Developing and Defining Non-motorized Trail System (inventory, evaluation/assessment process)

As noted in the Introduction (Section O.1), above, the BLM used a variety of information sources to identify and designate non-motorized trails. The following processes were used:

- A number of routes were identified using the Motorized Travel inventory steps (discussed below in Section O.6.*). In these cases, the decision by the Interdisciplinary Team conducting the motorized route evaluation was to limit the use of these routes to non-motorized travel or a combination of administrative access through motorized travel with general public access as being non-motorized. Most of these routes were not specifically designated for non-motorized use, but are only recognized as being available for this type of use, since a full evaluation of the impacts for this type of travel was not done.
- Other routes were identified through a review of public comments—these routes were in many cases existing and in some cases user-created. Some routes have been identified and publicized through public media sources.

- Still other routes had been developed by the BLM and its partners during the course of implementing the previous RMP but had not been previously formally included in a comprehensive Travel and Transportation system.

0.5.1 Designated Non-Motorized Trails in the Billings Field Office

Table O-2: Designated Exclusively Non-motorized Trails in the Billings Field Office

Designated Exclusively Non-motorized trails in the Billings Field Office			
Location	Location	Location	Location
Sundance Lodge Recreation Area #	East Loop Trail	SD 001	0.9 miles
	West Loop Trail	SD 002	2.8 miles
	River Trail	SD 003	0.2 miles
Four Dances Natural Area/ACEC #	South Loop Trail	FD 001	1.4 miles
	River Loop Trail	FD 002	1.2 miles
	North Loop Trail	FD 003	3.2 miles
	Bridge Access Trail	FD 004	0.3 miles
	Cut Across Trail	FD 005	0.4 miles
Shepherd Ah-Nei Recreation Area #	West Loop	SA 001	2.8 miles
	North Loop	SA 002	1.2 miles
	South Loop	SA 003	1.4 miles
Weatherman Draw ACEC	All trails are Un-named and all are inventoried routes designated only for non-motorized use by the public. * (closed/limited for vehicles)	WD 001 (CW10009)	0.2 miles
		WD 002 (CW 1003)	4.9 miles
		WD 003 (CW 1001)	3.8 miles
		WD 004 (CW 1004)	1.5 miles
		WD 005 (CW 1005)	1.7 miles
		WD 006 (CW 1016)	1.3 miles
		WD 007 (CW 1002)	1.8 miles
		WD 009 (CW 1012)	0.4 miles
		WD 010 (CW 1007)	2.8 miles
		WD 011 (CW 1013)	0.2 miles
		WD 012 (CW 1014)	0.2 miles
		WD 013 (CW 1015)	0.4 miles
		WD 014 (CW 1010)	1.0 miles
Acton Recreation Area #	Roller Coaster Trail	AC 2002	2.0 miles
	Tumbleweed Trail	AC 2001	1.4 miles
	XXX Trail	AC 2003	1.8 miles
	Upper Run Trail	AC 2004	1.2 miles
	T1 Trail	AC 2005	3.2 miles
	Wits Run Trail	AC 2008	0.5 miles
	Flow Downhill	AC 2006	0.5 miles
	Input Trail	AC 2007	0.3 miles
	No Return Trail	AC 2009	0.4 miles
	Old Southeast Rd Trail	AC 2010	2.4 miles
	Black Haul Trail		
	Explorer Trail	AC 2011	0.5 miles
	Southwest trail	AC 2012	2.1 miles
Meeteetse Spires ACEC/LWC Trails	Face of the Mountain Trail **	MT 001	0.8 miles
	Meeteetse Canyon Trail (*closed road)	MT 002 (GC1059, GC 1060, GC 201)	1.1 miles

Lilly Pad Lake Trail #	Lilly Pad Lake Trail		0.6 miles
Pryor Mountains Area	Big Sky Trail	PM 1001 (PM 1035)	0.7 miles
	Bear Canyon Trail	PM 1002 (PM 1068 & PM 1070)	3.4 miles
	Douglas Fir Trail	PM 1003 (PM 1033)	0.5 miles
	Rocky Juniper Trail	PM 1004	1.5 miles
	Connector Trail (* closed ex-vehicle route)	PM 1076	1.5 miles
Asparagus Point Recreation Area #	Point Trail	AS 001	0.4 miles
Twin Coulee WSA	FS Trail 650	TCWSA 1001	0.3 miles
Big Horn Tack-on WSA	Mystery Cave Trail	BHWSA 001	0.7 miles
	Royce Cave Trail	BHWSA 002	0.7 miles
	Sykes Cave Trail	BHWSA 003	1.0 miles
Pryor Mountains WSA	Turkey Flat Trail	PMWSA (PM 1004)	2.4 miles
Bad Canyon LWC	River Trail	BC 1001	5.9 miles
Burnt Timber LWC	Demijohn Flat Trail (* closed ex-vehicle route)	BT 001 (PM 1019, PM 1022, PM 1021)	8.2 miles
Pompeys Pillar National Monument #	Interpretation Trail	PPNM 1001	0.2 miles
	Walking Trail 1	PPNM 1002	0.1 miles
	Walking Trail 2	PPNM 1003	0.2 miles
TOTAL		52 separate Trails	74.9 miles

1. (Parenthesis) denotes Route number of motorized trails inventoried as part of the Billings Field Office Travel Inventory, Route inventory files available.
2. ** denotes Jurisdictional Transfer Case File #102125) between BLM and FS which established trail.
3. * denotes motorized roads closed to motorized use and limited to non-motorized use or open for administrative access purposes only.
4. # denotes Trails built by BLM and its partners specifically as non-motorized prior to the RMP
5. For location maps of the non-motorized trails, please see ****.
6. Note that ALL motorized routes shown on the TMA maps either "closed" or "Admin use only" are also available for use for non-motorized travel, as are also any routes shown as "open" for motorized vehicle use. The routes shown in this table are specifically identified here as **exclusively** for non-motorized travel.

O.5.2 Impact Analysis Section

The impact analysis for motorized travel management, as presented in this Appendix, divided into two main parts. The first part describes environmental consequences associated with proposed management in RMP alternatives for the Billings Field Office overall (referred to as RMP level decisions). The second part describes the effects to specific resources from the site-specific travel plan alternatives (implementation decisions) for the 11 Travel Management Areas. Maps depicting travel routes by alternative, by TMA, are included in the map section of this RMP.

Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by the action and occur later or farther away but are still reasonably foreseeable. Cumulative impacts are the effects on the environment that result from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions.

Impacts are also described as to their context, intensity, and duration. Context generally refers to the geographic extent of impact (localized or widespread). Impact duration refers to how long an

impact would last. Unless otherwise stated for any particular impact topic, short-term impacts would occur with five years of implementing the Plan, often during construction and recovery, while long-term impacts would occur beyond five years, often from operations. Impact intensity is the magnitude or degree to which a resource would be beneficially or adversely affected. The criteria used to rate the intensity of the impact for each impact topic are as follows:

Negligible: Impacts on travel and access would not be noticeable as there would be no discernible effect on the number or miles of routes designated as open for all uses, restricted to certain types of uses or seasonally or completely closed. While a few roads or trails could be improved or upgraded, overall road and trail conditions would essentially remain the same.

Minor: Impacts on travel and access would be slightly noticeable in certain areas, although there would no substantive effect on the overall miles of routes designated as open, restricted, or completely closed throughout the Planning Area. While numerous roads and trails could be improved or upgraded, these would be site specific while the condition of most roads and trails would essentially remain the same.

Moderate: Impacts on travel and access would be evident in many portions of Planning Area due to the overall miles of routes designated as open, limited in use, or completely closed for any number of uses. Changes in road and trail conditions would be noticeable in certain portions of the Planning Area due to road and trail improvement or upgrades.

Major: Impacts on travel and access would be extensive throughout the Planning Area due to the overall miles of routes designated as open, limited in use, or completely closed for any type of use. Substantial numbers/miles of roads and trails could be improved or upgraded, resulting in a noticeable change in road and trail condition throughout the Planning Area. The following Appendix Sections 5.3 and 5.4 describes those environmental consequences associated with proposed management in RMP alternatives for the Billings Field Office overall (referred to as RMP level decisions) predicted to occur from implementing the alternatives for non-motorized travel presented in Chapter 2.

0.5.3 Resource Management Plan Level Analysis for Non-motorized Travel

In dealing with non-motorized travel decisions, the entire Field Office public lands were evaluated (434,154 acres). This is due to the location and number of existing routes already constructed and/or being used but not having been documented.

0.5.4 Alternative A – No Action Alternative

0.5.4.1 Proposed Actions

Of the 434,154 acres of public lands in the BiFO, non-motorized travel would be permitted anywhere in the FO, with a total of 35.4 miles of trails specifically designated for non-motorized

use at this time. However, a Field Office-wide and Comprehensive Travel and Transportation system has not been developed. Trail development has been on an ad-hoc basis and not proactive. The existing trails already constructed (Table O-2) would continue to be used. Additionally, all motorized routes are also available for non-motorized use. All routes which are restricted for vehicle use (closed or administrative use only) are also available for non-motorized use. Some routes may be completely rehabbed and eliminated from the route inventory if resources conditions warrant.

O.5.4.2 Consequences

The miles of routes designated have been in existence for some time, with the 35.4 miles of trails constructed by BLM and its partners having been addressed in site specific NEPA analysis, but the others not having been considered for non-motorized uses. A pro-active and systematic approach to route management would not occur with the inevitable consequences: Conflicts would continue to occur on routes "claimed" by different user types; Users could continue to market, use and develop their own preferred routes with little or no regard for resource concerns.

O.5.4.3 Alternative B, C, D.

In all Alternatives, the routes designated for non-motorized use have been in existence for some time, with the 35.4 miles of trails constructed by BLM and its partners having been addressed in site specific NEPA analysis and all of the other routes inventoried by an interdisciplinary BLM staff through the route evaluation process.

Under all these Alternatives, all the routes identified in Section O.5.1 would be designated for the exclusive use as non-motorized trails. Of the 434,154 acres of public lands in the BiFO, non-motorized travel would be permitted anywhere in the FO, with a total of 73.4 miles of trails specifically designated for non-motorized use.

O.5.4.4 Proposed Actions

On all 434,154 acres of BLM administered public lands in the BiFO, non-motorized travel cross country by any means would be allowed, with restrictions only on the lands within WSAs (28,631 acres). All vehicle routes, regardless of designation, would also be available for use for non-motorized travel. A process for evaluation and designation of further routes for non-motorized travel is in place within the eleven (11) TMAs and all of these areas would have site specific implementation level decisions. The lands outside of the TMAs would continue to have individual decisions on specific routes made on an as-needed basis.

O.5.4.5 Consequences

There would be a comprehensive and systematic process for the inventory, evaluation, establishment and management of a designated non-motorized component of a Travel Plan for most, but not all of the BiFO. The lands not included in the Travel Planning process do have in some cases trail systems, but much of these lands are isolated and inaccessible parcels with limited or no visitation.

O.6 Impact Analysis for Motorized Travel Management

The impact analysis for motorized travel management, as presented in this Appendix, is divided into two main parts. The first part describes environmental consequences associated with proposed management in RMP alternatives for the Billings Field Office overall (referred to as RMP level decisions). The second part describes the effects to specific resources from the site-specific travel plan alternatives (implementation decisions) for the 11 Travel Planning Areas. Maps depicting travel routes by alternative, by TPA, are included in the map section of this RMP.

For a detailed discussion of the Impact Analysis descriptions (direct and indirect, context, intensity, and duration), please refer to Section O.5.2, above.

O.6.1 Resource Management Plan Level Analysis

Of the 434,154 acres of public lands within the BiFO, this plan would deal with motorized travel management decisions within eleven separate areas (Travel Management Areas), totaling 282,404.5 acres. The rest of the BiFO, totaling approximately 149,352.6 acres, would be deferred for no more than 5 years once the ROD is signed. Having management decisions on the Travel Management Areas is a high priority, while the deferred lands are mostly inaccessible and isolated parcels with no motorized travel issues.

A specific note for readers of this document is that, in the course of conducting evaluations, route numbers and names shown on maps in this RMP are for display purposes only and names and numbers may not match names and numbers found on other agency publications.

O.6.1.1 Alternative A – No Action Alternative

O.6.1.1.1 Proposed Actions

Of the 434,154 acres of BLM public lands in the BiFO, vehicle travel would be limited to existing roads and trails on 326,561 acres. On about 101,027 acres, site-specific travel planning has been completed and motorized travel would be limited to designated routes in the following Travel Management Areas (TMAs): Shepherd Ah-Nei (4,680 acres), Acton (3,697 acres), Horsethief (11,423 acres) and the Pryors (81,227 acres). Under Alternative A, the South Hills OHV area would continue to be designated as open to motorized cross-country travel, limited to motorcycle use only (1,097 acres open) with a 260 acre closed area to provide a buffer to residential areas adjacent to the area.

General Travel Access: Under the No Action Alternative, the 877 existing BLM routes (993 miles) that comprise the travel networks within the eleven TMAs would continue to be managed using the five existing designations shown in **Error! Reference source not found.** and Figure 4.1.1a – Alternative A Route Designations for All TMAs (refer to the Figures Appendix at the end of this document), with the overwhelming majority of routes (about 84%) open to all motorized uses or open with special seasonal or vehicular restrictions. Designations specific to individual TMAs are shown in **Error! Reference source not found.**

Table O-3: Alternative A Route Designations for All TMAs

Alternative A Route Designations for All TMAs				
Potential Route Designations	Alternative A			
	Number of Routes in Full Network	Percent of Full Network	Miles of Routes in Full Network	Percent of Full Network
Number of open routes	726	83%	763.6	77%
Number of open with vehicle restrictions routes	1	0.1%	52.7	5.3%
Number of open with seasonal restrictions routes	7	0.8%	7.2	0.7%
Number of limited to administrative use only routes	54	6.1%	61.1	6.2%
Number of closed routes	89	10%	108.6	11%
Average number/miles open routes per square mile (density)	1.5		1.7	

Table O-4: Alternative A Route Designations for Specific TMAs

Alternative A Route Designations for Specific TMAs							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
Acton	Number of Routes	0	0	7	0	3	1.2
	Miles of Routes	0	0	7	0	2	1.2
Gage Dome/Colony Road	Number of Routes	79	0	0	0	0	1.4
	Miles of Routes	96	0	0	0	0	1.6
Cottonwood/Weatherman	Number of Routes	226	0	0	16	0	1.7
	Miles of Routes	286	0	0	24	0	2.2
Grove Creek	Number of Routes	79	0	0	0	0	2.2
	Miles of Routes	73	0	0	0	0	2
Horsethief	Number of Routes	38	0	0	5	2	1.2
	Miles of Routes	33	0	0	3	3	1
Mill Creek/Bundy	Number of Routes	196	0	0	14	0	2.5
	Miles of Routes	127	0	0	17	0	1.6
Pryors	Number of Routes	60	0	0	1	84	0.49
	Miles of Routes	116	0	0	2	14	1
Shepherd	Number of Routes	1	1	0	12	0	0.3

Alternative A Route Designations for Specific TMAs							
TMA	Potential Route Designations Miles of Routes	Open 0.2	Open with vehicle restrictions 53	Open with seasonal restrictions 12	Limited to administrative use only 0	Closed 0	Average open per square mile (density) 8.9
Tin Can Hill	Number of Routes	0	0	0	6	0	0
	Miles of Routes	0	0	0	3	0	0
Warren	Number of Routes	47	0	0	0	0	2.2
	Miles of Routes	34	0	0	0	0	1.5

Route Density: While the existing route density of the overall network is 1.8 routes per square mile at 2 miles per square mile for all designation types, managing the existing route network as is would retain an existing average route density of 1.5 open routes per square mile at 1.7 miles per square mile for the TMAs. On a specific TMA basis, the Mill Creek/Bundy TMA has the highest density of open routes at 2.5 routes per square mile while the Tin Can Hill TMA has the lowest density of open routes at 0.0 routes per square mile. In terms of miles of routes per square mile, the Shepherd TMA has the highest route density among the TMAs, of 8.9 miles of open routes; while again, Tin Can Hill has the lowest route density of 0.0 miles of open routes (See Figure 4.1.1b in the Figures Appendix at the end of this document).

Route Proliferation: During the specific route evaluation process, BLM staff specialists identified routes that have a higher potential for route proliferation in 9 of 11 TMAs: Acton, Cottonwood/Weatherman, Grove Creek, Gage Dome/Colony Road, Mill Creek/Bundy Road, Shepherd, South Hills, Warren and Pryors. Route proliferation is described as the ongoing or potential creation of new routes by unauthorized means, such as repeated off-route travel.

Error! Reference source not found. displays the existing route designations that are in place for the 609 routes (781 miles) where proliferation concerns were noted during the route evaluation process.

Table O-5: Alternative A Routes In/Thru Route Proliferation Area of Concern for All TMAs

Alternative A Routes In/Thru Route Proliferation Area of Concern for All TMAs				
Potential Route Designations	Alternative A			
	Number of Selected Routes	Percent of Selected Network	Miles of Selected Routes	Percent of Selected Network
Number of open routes	502	82%	591.7	76%
Number of open with restrictions routes	5	0.8%	58.8	7.5%
Number of limited to administrative use only routes	17	3%	25.9	3.3%
Number of closed routes	85	14%	104.9	13%

Public Safety Concerns: Another issue identified during the route evaluation process was public safety concerns associated with 13 routes in 3 of 11 TMAs: Cottonwood/Weatherman, Grove Creek and Pryors. Public safety concerns include, but are not limited to, poor road placement, soils concerns, poor alignment, poor condition related to maintenance, line of site related to on-coming traffic, etc.

O.6.1.1.2 Consequences

Summary: In this Alternative, the areas designated as ‘limited to existing roads and trails’ would continue to be difficult to enforce as unauthorized route creation and proliferation by users makes the ‘existing network’ ever-changing. In those areas where motorized travel is limited to existing roads and trails, impacts to various resources, including soil, water, fragile cultural or paleontological sites and wildlife habitat would continue in those areas outside of the existing TMAs (where route designations have been made under previous decisions).

Generally, limiting motorized travel in a majority of the planning area to existing roads and trails is not always compatible with the other resource uses or resource values associated with certain areas. Addressing site specific travel planning decisions better addresses localized conditions, resource features, on-going/historic uses and recreational trend information.

General Travel Access: Though in the long-term, travelers could experience minor increases in traffic on these open routes due to the assumptions described above, over 8 out of every 10 existing BLM routes would remain open to all users under Alternative A and the availability of access to the TMAs for travelers would remain fairly constant for the long-term. Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may increase to a minor, short-term extent on a localized basis as these new routes potentially become available for, and help spread out public use; such effects would ebb and flow with energy development.

Although Alternative A carries forward closures and restrictions to administrative use only on 143 routes at 170 miles, the long-term, direct, localized effect of these restricted routes on access is minor, due to the availability of 735 open routes at 824 miles with the route densities that are described below.

Route Density: Generally, TMAs with higher densities of open routes provide greater access opportunities to public land areas for all types of travelers. Those areas with densities under 1 open route per square mile and/or under 1 open mile per square mile, could be considered much less accessible by travelers that rely solely on motorized modes of travel. As such, the existing motorized travel designations of Alternative A could constitute a continuation of a long-term, direct, localized minor to moderate restriction of motorized access in 4 of 11 TMAs (Horsethief, Pryors, Shepherd, and Tin Can Hill).

Route Proliferation: Current management decisions of ‘closed’, ‘limited’, or ‘open with restrictions’ on some 107 routes (190 miles), would continue to maintain a reduced potential for new, unauthorized routes by maintaining a reduced accessibility on 18% of the routes of concern. This would continue to directly reduce the potential for illegal route creation in the long-term, which would contribute to minimizing harassment of wildlife, disruption of wildlife habitats, damage to soil, watershed, vegetation, air, or other resources, and the potential for adversely

affecting natural areas to a minor degree by reducing the number of routes with known route proliferation concerns (43 CFR 8342.1(a)(b)(d)).

Public Safety Concerns: Error! Reference source not found. displays the existing route designations that are in place for the 13 routes (32 miles) where public safety concerns were noted during the evaluations (note: safety concerns are primarily associated with specific locations on a specific route, not the entire length of that route). Current management decisions of ‘closed’, ‘limited’, or ‘open with restrictions’ on 5 routes (5 miles), would continue to maintain a reduced potential for incidents involving public safety by maintaining reduced access opportunities on 39% of the routes of concern. This direct, long-term, reduction of routes would promote safety of all users of the public lands to a minor to moderate degree by reducing the potential for public safety incidents on routes with known safety concerns (43 CFR 8342.1).

Table O-6: Alternative A Routes with Public Safety Concerns for All TMAs

Alternative A Routes with Public Safety Concerns for All TMAs				
Potential Route Designations	Alternative A			
	Number of Selected Routes	Percent of Selected Network	Miles of Selected Routes	Percent of Selected Network
Number of open routes	8	61.5%	26.9	85%
Number of open with restrictions routes	0	0%	0	0%
Number of limited to administrative use only routes	0	0%	0	0%
Number of closed routes	5	38.5%	4.7	15%

O.6.1.2 Alternative B

O.6.1.2.1 Decisions

Under Alternative B, vehicle travel would be limited to designated roads and trails on 282,285 acres and limited to existing roads and trails on 145,303 acres of BLM public lands in the BiFO. Additionally, under Alternative B, South Hills (1,357 acres) would be designated as closed to all motorized modes of travel. This would result in a direct, long-term impact to motorized users (motorcycle only) resulting from the area closure of the South Hills OHV area. Under Alternative B, an additional 181,258 acres (or a 36 percent increase) (compared to Alternative A) would be limited to designated motorized routes in the planning area. Refer to **Error! Reference source not found.**: Alternative B Route Designations for All TMAs (compared to Alt. A).

Table O-7: Alternative B Route Designations for All TMAs (compared to Alt. A)

Alternative B Route Designations for All TMAs (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	# Routes	% of Network	Miles	% Network	# Routes	% of Network	# Δ from Alt. A	% Δ from Alt. A	Miles	% of Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	726	83%	763.6	77%	81	9.2%	-645	-74%	272.4	27%	-	-50%
Number of open with vehicle restrictions routes	1	0.1%	52.7	5.3%	5	0.5%	4	0.4 %	65.1	6.5%	12.4	1.2%
Number of open with seasonal restrictions routes	7	0.8%	7.2	0.7%	6	0.7%	-1	-0.1%	11.8	1.2%	4.6	0.5%
Number of limited to administrative use only routes	54	6.2%	61.1	6.2%	223	25%	169	19%	247.3	25%	186.2	19%
Number of closed routes	89	10%	108.6	11%	562	64%	473	54%	396.5	40%	287.9	29%
Average number/miles <u>open</u> routes per square mile (density)	1.5	X	1.7	X	0.2	X	-1.3	-88%	0.7	X	-1.0	-58%

General Travel Access: Under the Alternative B, the 877 existing BLM routes (993 miles) that comprise the existing travel networks within the eleven TMAs would be managed using the five existing designations shown in **Error! Reference source not found.** Figure 4.1.2a (at the end of this document), which also compare Alternative B designations with Alternative A. Designations specific to individual TMAs are shown in **Error! Reference source not found.** and are also compared to Alternative A. At 562, the majority of routes (64% of overall network) would be recommended for closure to all motorized modes of travel and 223 routes (25% of overall network) would be recommended for administrative use only.

Table O-8: Alternative B Route Designations for TMAs (compared to Alt. A)

Alternative B Route Designations for TMAs (compared to Alt. A)							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
Acton	Alt. A # of Routes	0	0	7	0	3	1.2
	Alt. A Miles	0	0	7	0	2	1.2
	Alt. B # of Routes	0	0	3	0	7	0.5
	Alt. B Miles	0	0	5	0	4	0.9

Alternative B Route Designations for TMAs (compared to Alt. A)							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
	% Δ # of Routes	0.0%	0.0%	-40.0%	0.0%	40.0%	-57.0%
	% Δ Miles	0.0%	0.0%	-24.0%	0.0%	23.0%	-29.0%
Gage Dome/ Colony Road	Alt. A # of Routes	79	0	0	0	0	1.4
	Alt. A Miles	96	0	0	0	0	1.6
	Alt. B # of Routes	7	0	0	41	31	0.1
	Alt. B Miles	31	0	5	45	20	0.6
	% Δ # of Routes	-91.0%	0.0%	0.0%	52.0%	39.0%	-91.0%
	% Δ Miles	-68.0%	0.0%	5.0%	47.0%	21.0%	-62.0%
Cottonwood/ Weatherman	Alt. A # of Routes	226	0	0	16	0	1.7
	Alt. A Miles	286	0	0	24	0	2.2
	Alt. B # of Routes	29	2	0	52	159	0.2
	Alt. B Miles	123	10	0	68	108	1
	% Δ # of Routes	-84.0%	1.0%	0.0%	15.0%	66.0%	-86.0%
Grove Creek	% Δ Miles	-53.0%	3.0%	0.0%	14.0%	35.0%	-53.0%
	Alt. A # of Routes	79	0	0	0	0	2.2
	Alt. A Miles	73	0	0	0	0	2
	Alt. B # of Routes	7	0	0	8	64	0.2
	Alt. B Miles	18	0	0	9	46	0.5
	% Δ # of Routes	-91.0%	0.0%	0.0%	10.0%	81.0%	-91.0%
Horsethief	% Δ Miles	-76.0%	0.0%	0.0%	13.0%	63.0%	-76.0%
	Alt. A # of Routes	38	0	0	5	2	1.2
	Alt. A Miles	33	0	0	3	3	1
	Alt. B # of Routes	5	1	0	15	24	0.2
	Alt. B Miles	10	2	0	14	13	0.4
	% Δ # of Routes	-73.0%	2.0%	0.0%	22.0%	49.0%	-84.0%
Mill Creek/ Bundy	% Δ Miles	-59.0%	4.0%	0.0%	29.0%	26.0%	-64.0%
	Alt. A # of Routes	196	0	0	14	0	2.5
	Alt. A Miles	127	0	0	17	0	1.6
	Alt. B # of Routes	13	0	0	56	141	0.2
	Alt. B Miles	20	0	0	56	68	0.3

Alternative B Route Designations for TMAs (compared to Alt. A)							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
	% Δ # of Routes	-87.0%	0.0%	0.0%	20.0%	67.0%	-93.0%
	% Δ Miles	-74.0%	0.0%	0.0%	27.0%	48.0%	-84.0%
Pryors	Alt. A # of Routes	60	0	0	1	84	0.49
	Alt. A Miles	116	0	0	2	14	1
	Alt. B # of Routes	19	1	3	25	97	0.2
	Alt. B Miles	71	1	7	26	119	0.6
	% Δ # of Routes	-28.0%	1.0%	2.0%	17.0%	9.0%	-62.0%
	% Δ Miles	-20.0%	1.0%	3.0%	11.0%	7.0%	-33.0%
Shepherd	Alt. A # of Routes	1	1	0	12	0	0.3
	Alt. A Miles	0.2	53	12	0	0	8.9
	Alt. B # of Routes	1	1	0	8	4	0.3
	Alt. B Miles	1	53	0	11	2	7.2
	% Δ # of Routes	0.0%	0.0%	0.0%	-29.0%	29.0%	0.0%
	% Δ Miles	0.0%	0.0%	-19.0%	16.0%	3.0%	-19.0%
Tin Can Hill	Alt. A # of Routes	0	0	0	6	0	0
	Alt. A Miles	0	0	0	3	0	0
	Alt. B # of Routes	0	0	0	2	4	0
	Alt. B Miles	0	0	0	1	2	0
	% Δ # of Routes	0.0%	0.0%	0.0%	-67.0%	67.0%	0.0%
	% Δ Miles	0.0%	0.0%	0.0%	-62.0%	62.0%	0.0%
Warren	Alt. A # of Routes	47	0	0	0	0	2.2
	Alt. A Miles	34	0	0	0	0	1.5
	Alt. B # of Routes	0	0	0	16	31	0
	Alt. B Miles	0	0	0	18	16	0
	% Δ # of Routes	-100.0%	0.0%	0.0%	34.0%	66.0%	-100.0%
	% Δ Miles	-100.0%	0.0%	0.0%	53.0%	47.0%	-100.0%

Route Density: While Alternative A would continue managing existing route network at an average route density of 1.5 open routes per square mile at 1.7 miles per square mile for the TMAs, Alternative B would greatly reduce densities across all TMAs to an average of 0.2 open routes per square mile (an 88% reduction) at an average of 0.7 miles per square mile (a 58% reduction). On a specific TMA basis, the Acton TMA would have the highest density of open

routes at 0.5 routes per square mile while the Tin Can Hill and Warren TMAs would have the lowest densities of open routes at 0.0 routes per square mile. In terms of miles of routes per square mile, the Shepherd TMA would have the high among the TMAs of 7.2 miles of open routes, while again, Tin Can Hill and Warren would have the low of 0.0 miles of open routes (See Figure 4.1.2b at the end of this document).

Route Proliferation: Error! Reference source not found. displays the Alternative B route designations compared to the Alternative A designations for the 609 routes (781 miles) where route proliferation concerns were noted during the route evaluations for 9 out of the 11 TMAs. Alternative B designations of ‘closed’, ‘limited’, or ‘open with restrictions’ on 546 routes (547 miles), would restrict access on 89% of the routes identified as having route proliferation concerns; 72% more routes with restrictions in Alternative B than the current 18% in Alternative A.

Table O-9: Alternative B Routes In/Thru Route Proliferation Area of Concern for All TMAs

Alternative B Routes In/Thru Route Proliferation Area of Concern for All TMAs												
Potential Route Designations	Alternative A				Alternative B							
	# Selected Routes	% of Selected Network	Miles Selected Routes	% Selected Network	# Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A	Miles Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	502	82%	591.7	76%	62	10%	-440	-72%	233.5	30%	-358	-46%
Number of open with restrictions routes	5	0.8%	58.8	7.5%	8	1.3%	3	0.5%	74.2	9%	15.4	2%
Number of limited to administrative use only routes	17	2.8%	25.9	3.3%	129	21%	112	18%	148	19%	122.1	16%
Number of closed routes	85	14%	104.9	13%	409	67%	324	53%	325.2	42%	220.3	28%

Public Safety Concerns: Error! Reference source not found. displays the Alternative B route designations compared to the Alternative A designations for the 13 routes (32 miles) where public safety concerns were noted during the route evaluation process for 3 TMAs. Alternative B designations of ‘closed’, ‘limited’, or ‘open with restrictions’ on 10 routes (14 miles), would restrict access on 77% of the routes identified as having public safety concerns; 38% more routes with restrictions in Alternative B than the current 39% in Alternative A.

Table O-10: Alternative B Routes with Public Safety Concerns for All TMAs

Alternative B Routes with Public Safety Concerns for All TMAs												
Potential Route Designations	Alternative A				Alternative B							
	# Selected Routes	% of Selected Network	Miles Selected Routes	% Selected Network	# Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A	Miles Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	8	61.5%	26.9	85%	3	23%	-5	-39%	17.7	56%	-9.2	-29%
Number of open with restrictions routes	0	0%	0	0%	3	23%	3	23%	6.7	21.2%	6.7	21.2%
Number of limited to administrative use only routes	0	0%	0	0%	1	7.7%	1	7.7%	2.2	7%	2.2	7%
Number of closed routes	5	38.5%	4.7	15%	6	46%	1	7.7%	5.0	16%	0.3	0.9%

O.6.1.2.2 Consequences

Summary: This Alternative would generally have more restrictions and constraints to motorized access which would have a direct, long-term impact to motorized users by limiting access and opportunities; however, there would be fewer direct, indirect and cumulative impacts to sensitive and fragile resource issues identified (refer to those corresponding impact analysis discussions by alternative). Generally, designating roads and trails for motorized travel within the TMAs better responds to and addresses resource conditions.

General Travel Access: This would result in 54% more closed routes in Alternative B than already exist in Alternative A and in 19% more routes designated for administrative use only in Alternative B than exist in Alternative A. These results would be a long-term, direct, widespread, major reduction in general public access opportunities via motorized modes of travel. The closures would directly impact administrative users, but only to a minor degree in the long-term as closed route were not primary access to administrative facilities and functions.

While the number of routes recommended for closure and administrative use only would be 64% and 25% of the overall network respectively, the actual miles of routes closed under Alternative B would be 397 or about 40% and those limited to administrative use would be 247 or about 25% of the existing mileage. This would result in 29% more miles of routes closed in Alternative B than the current 11% closure mileage in Alternative A. Additionally, there would be 19% more mileage of routes identified for administrative use only in Alternative B than the current 6% mileage in Alternative A. This would result in a moderate, long-term, direct loss of motorized access opportunities for the general public and a negligible change in access availability for administrative uses, as such uses would continue to have access on administrative routes, absent of public use. So, while the actual number of routes recommended for closure changes greatly (54% more in Alternative B than in Alternative A) the actual number of miles of closed routes changes only moderately (29% more in Alternative B than in Alternative A) for an overall minor to moderate loss of available access.

Routes open to all motorized uses or open with special seasonal or vehicular restrictions would decrease to a total of 90 routes (10% of the network), or about 74% fewer open routes in Alternative B than the current 84% of open routes in Alternative A. In the long-term, travelers could experience major increases in traffic on open routes due to the concentration effects of excluding public motorized use from 9 out of every 10 existing BLM routes. Fewer open routes available to the public would concentrate travelers on fewer available routes, which could diminish realization of travelers' expectations for broader, uncrowded access, greatly reducing the potential for realizing various benefits that are possible with full access. However, with regard to route miles, Alternative B would recommend 347 miles with these open designations--35% of the proposed network. This would result in 49% fewer miles of open routes in Alternative B than the current 83% in Alternative A.

As the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may be diminished to a minor, short-term extent on a localized basis as these new routes potentially become available for public use; such effects would ebb and flow with energy development.

Route Density: Given that areas with densities under 1 open route and/or 1 open mile per square mile could be considered much less accessible by motorized travelers, only two TMA's in Alternative B (Cottonwood/Weatherman and Shepherd) would meet or exceed this standard and then only in miles per square mile. As such, the route designations of Alternative B would constitute a long-term, direct, localized major restriction of motorized access in terms of travel dispersal opportunities in 8 of 10 TMA's (All except Cottonwood/Weatherman and Shepherd). However, concentrating motorized vehicular travel use on fewer routes may increase compaction, create more disturbance due to limited routes for travel, and higher frequency of use, which could result in unintended consequences of limiting motorized travel.

Route Proliferation: This would directly reduce the potential for illegal route creation in the long-term, which would contribute to minimizing harassment of wildlife, disruption of wildlife habitats, damage to soil, watershed, vegetation, air, or other resources, and the potential for adversely affecting natural areas to a major degree by reducing the number of routes with known route proliferation concerns (43 CFR 8342.1(a)(b)(d)).

Public Safety Concerns: This direct, long-term, reduction of routes would promote safety of all users of the public lands to a major degree by reducing the potential for public safety incidents on routes with known safety concerns (43 CFR 8342.1). However, for those travel areas that receive a high frequency of use, limiting access in some cases could create increased user conflicts or incidences of high traffic volume, as there are fewer motorized routes available in the planning area.

O.6.1.3 Alternative C

O.6.1.3.1 Decisions

Under Alternative C, vehicle travel would be limited to designated roads and trails on 282,285 acres and limited to existing roads and trails on 145,303 acres of BLM public lands in the Planning Area. This would be the same as Alternative B. Under Alternative C, within the South

Hills OHV Area, 1,296 acres as open to motorized vehicle use (limited to motorcycle use only), and would identify a 61 acre closure area to motorized use (all uses) in the South Hills OHV Area to provide a buffer to adjacent residential areas. This would be an increase of 199 acres for an open area designation from Alternative A. Generally, under Alternative C, more routes would be designated as open all forms of motorized travel than in Alternative B, and fewer than Alternative A (refer to 4.1.3a: Alternative C Route Designations for All TMAs (compared to Alt. A, located at the end of this document)).

General Travel Access: Under the Alternative C, the 877 existing BLM routes (993 miles) that comprise the existing travel comprise the existing travel networks within the 11 TMAs would be managed using the five existing designations shown in **Error!** existing designations shown in **Error! Reference source not found.** and Figure 4.1.3a below, which also compare Alternative C designations with Alternative A. Designations specific to individual TMAs are shown in

and are also compared to Alternative A. At 22, few routes (2.5% of overall network) would be recommended for closure to all motorized modes of travel and 120 routes (13.7% of overall network) would be recommended for administrative use only. This would result in 7.6% fewer closed routes in Alternative C than already exist in Alternative A and in 7.5% more routes designated for administrative use only in Alternative C than exist in Alternative A.

While the number of routes recommended for closure and administrative use only would be 2.5% and 13.7% of the overall network respectively, the actual miles of routes closed under Alternative C would be 5.9 or about 0.6% and those limited to administrative use would be 91.3 or about 9.2% of the existing mileage. This would result in 10.3% fewer miles of routes closed in Alternative C than the current 11% closure mileage in Alternative A. Additionally, there would be 3% more mileage of routes identified for administrative use only in Alternative C than the current 6.2% mileage in Alternative A. The slight gain in administrative use only route miles is offset by the loss of over 3 times that amount in closed route miles (many that were designated as open in Alternative C). So, while the actual number of routes recommended for closure changes to a negligible to minor degree (7.6% fewer in Alternative C than in Alternative A) the actual number of miles of closed routes changes to a minor degree (10.3% fewer in Alternative C than in Alternative A) for an overall minor loss of available access.

Routes open to all motorized uses or open with special seasonal or vehicular restrictions would increase slightly by 1 route from Alternative A to a total of 735 routes (84% of the network), or about 0.1% more open routes in Alternative C. In terms of the number of open routes, there would be essentially no change from the number of open routes in Alternative A. However, with regard to route miles, Alternative C would recommend 896 miles with these open designations (90% of the proposed network). This would result in 8% more miles of open routes in Alternative C than the current 83% in Alternative A.

Table O-11: Alternative C Route Designations for All TMAs (compared to Alt. A)

Alternative C Route Designations for All TMAs (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative C							
	# Routes	% of Network	Miles	% Network	# Routes	% of Network	# Δ from Alt. A	% Δ from Alt. A	Miles	% of Network	# Δ from Alt. A	% Δ from Alt. A

Number of open routes	726	83%	763.6	77%	727	82.9%	1	0.1%	825	83%	61.4	6.2%
Number of open with vehicle restrictions routes	1	0.1%	52.7	5.3%	7	0.8%	6	0.7%	70.7	7.1%	18	1.8%
Number of open with seasonal restrictions routes	7	0.8%	7.2	0.7%	1	0.1%	-6	-0.7%	0.2	0%	-7	-0.7%
Number of limited to administrative use only routes	54	6.2%	61.1	6.2%	120	13.7%	66	7.5%	91.3	9.2%	30.2	3.0%
Number of closed routes	89	10%	108.6	11%	22	2.5%	-67	-7.6%	5.9	0.6%	-102.7	-10%
Average number/miles open routes per square mile (density)	1.5	X	1.7	X	1.5	X	0	0.1%	1.8	X	0.1	8.8%

Table O-12: Alternative C Route Designations for Specific TMAs (compared to Alt. A)

Alternative C Route Designations for Specific TMAs (compared to Alt. A)							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
Acton	Alt. A # of Routes	0	0	7	0	3	1.2
	Alt. A Miles	0	0	7	0	2	1.2
	Alt. C # of Routes	1	0	0	0	0	1.7
	Alt. C Miles	9	0	0	0	0	1.5
	% Δ # of Routes	100.0%	0.0%	-70.0%	0.0%	-30.0%	43.0%
	% Δ Miles	100.0%	0.0%	-83.0%	0.0%	-17.0%	19.0%
Gage Dome/ Colony Road	Alt. A # of Routes	79	0	0	0	0	1.4
	Alt. A Miles	96	0	0	0	0	1.6
	Alt. C # of Routes	69	0	0	10	0	1.2
	Alt. C Miles	91	0	0	5	0	1.5
	% Δ # of Routes	-13.0%	0.0%	0.0%	13.0%	0.0%	-13.0%
	% Δ Miles	-6.0%	0.0%	0.0%	6.0%	0.0%	-6.0%
Cottonwood/ Weatherman	Alt. A # of Routes	226	0	0	16	0	1.7
	Alt. A Miles	286	0	0	24	0	2.2
	Alt. C # of Routes	220	5	0	14	3	1.7
	Alt. C Miles	279	16	0	14	1	2.3
	% Δ # of Routes	-3.0%	2.0%	0.0%	-1.0%	1.0%	-1.0%
	% Δ Miles	-3.0%	5.0%	0.0%	-3.0%	1.0%	3.0%
Grove Creek	Alt. A # of Routes	79	0	0	0	0	2.2

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Alternative C Route Designations for Specific TMAs (compared to Alt. A)							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
	Alt. A Miles	73	0	0	0	0	2
	Alt. C # of Routes	69	0	0	8	2	1.9
	Alt. C Miles	70	0	0	2	1	1.9
	% Δ # of Routes	-13.0%	0.0%	0.0%	10.0%	3.0%	-13.0%
	% Δ Miles	-4.0%	0.0%	0.0%	3.0%	1.0%	-4.0%
Horsethief	Alt. A # of Routes	38	0	0	5	2	1.2
	Alt. A Miles	33	0	0	3	3	1
	Alt. C # of Routes	41	1	0	2	1	1.3
	Alt. C Miles	36	2	0	1	1	1.1
	% Δ # of Routes	7.0%	2.0%	0.0%	-7.0%	-2.0%	11.0%
Mill Creek/ Bundy	% Δ Miles	8.0%	4.0%	0.0%	-6.0%	-7.0%	14.8%
	Alt. A # of Routes	196	0	0	14	0	2.5
	Alt. A Miles	127	0	0	17	0	1.6
	Alt. C # of Routes	144	0	0	54	12	1.9
	Alt. C Miles	108	0	0	33	3	1.4
	% Δ # of Routes	-25.0%	0.0%	0.0%	19.0%	6.0%	-27.0%
Pryors	% Δ Miles	-13.0%	0.0%	0.0%	11.0%	2.0%	-15.0%
	Alt. A # of Routes	60	0	0	1	84	0.49
	Alt. A Miles	116	0	0	2	14	1
	Alt. C # of Routes	114	0	1	27	3	0.9
	Alt. C Miles	191	0	1	30	1	1.6
	% Δ # of Routes	37.0%	0.0%	1.0%	18.0%	-56.0%	92.0%
Shepherd	% Δ Miles	34.0%	0.0%	1.0%	13.0%	-46.0%	65.0%
	Alt. A # of Routes	1	1	0	12	0	0.3
	Alt. A Miles	0.2	53	12	0	0	8.9
	Alt. C # of Routes	10	1	0	3	0	1.5
	Alt. C Miles	8	53	0	4	0	8.3
	% Δ # of Routes	64.0%	0.0%	0.0%	-64.0%	0.0%	450.0%
Tin Can Hill	% Δ Miles	12.0%	0.0%	-19.0%	7.0%	0.0%	-7.0%
	Alt. A # of Routes	0	0	0	6	0	0
	Alt. A Miles	0	0	0	3	0	0

Alternative C Route Designations for Specific TMAs (compared to Alt. A)							
TMA	Potential Route Designations	Open	Open with vehicle restrictions	Open with seasonal restrictions	Limited to administrative use only	Closed	Average open per square mile (density)
	Alt. C # of Routes	5	0	0	1	0	5
	Alt. C Miles	3	0	0	1	0	2.7
	% Δ # of Routes	83.0%	0.0%	0.0%	-83.0%	0.0%	+ 5 routes
	% Δ Miles	93.0%	0.0%	0.0%	-97.0%	0.0%	+ 2.7 miles
Warren	Alt. A # of Routes	47	0	0	0	0	2.2
	Alt. A Miles	34	0	0	0	0	1.5
	Alt. C # of Routes	45	0	0	1	1	2.1
	Alt. C Miles	33	0	0	1	1	1.5
	% Δ # of Routes	-4.0%	0.0%	0.0%	2.0%	2.0%	-4.0%
	% Δ Miles	-3.0%	0.0%	0.0%	1.0%	2.0%	-3.0%

Route Proliferation: Error! Reference source not found. displays the Alternative C route designations compared to the Alternative A designations for the 609 routes (781 miles) where route proliferation concerns were noted during the route evaluation process for 9 TMAs. Alternative C designations of 'closed', 'limited', or 'open with restrictions' on 105 routes (138 miles), would restrict access on 17% of the routes identified as having route proliferation concerns; 0.4% fewer routes with restrictions in Alternative C than the current 18% in Alternative A.

Table O-13: Alternative C Routes In/Thru Route Proliferation Area of Concern for All TMAs

Alternative C Routes In/Thru Route Proliferation Area of Concern for All TMAs												
Potential Route Designations	Alternative A				Alternative C							
	# Selected Routes	% of Selected Network	Miles Selected Routes	% Selected Network	# Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A	Miles Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	502	82%	591.7	76%	504	82.8%	2	0.3%	643.2	82.3%	51.5	6.6%
Number of open with restrictions routes	5	0.8%	58.8	7.5%	7	1.1%	2	0.3%	69.3	8.9%	10.5	1.3%
Number of limited to administrative use only routes	17	2.8%	25.9	3.3%	89	14.6%	72	12%	65.8	8.4%	39.9	5.1%
Number of closed routes	85	14%	104.9	13%	9	1.5%	-76	-13%	3.1	0.4%	-101.8	-13%

Public Safety Concerns: Error! Reference source not found. displays the Alternative C route designations compared to the Alternative A designations for the 13 routes (32 miles) where public safety concerns were noted during the route evaluation process for 3 TMAs. Alternative C designations of 'closed', 'limited', or 'open with restrictions' on 7 routes (5.3 miles), would restrict access on 54% of the routes identified as having public safety concerns; 15.4% more routes with restrictions in Alternative C than the current 39% in Alternative A.

Table O-14: Alternative C Routes with Public Safety Concerns for All TMAs

Alternative C Routes with Public Safety Concerns for All TMAs												
Potential Route Designations	Alternative A				Alternative C							
	# Selected Routes	% of Selected Network	Miles Selected Routes	% Selected Network	# Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A	Miles Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	8	61.5%	26.9	85%	6	46.2%	-2	-15.4%	26.4	83.3%	-0.5	-2%
Number of open with restrictions routes	0	0%	0	0%	1	7.7%	1	7.7%	0.2	0.6%	0.2	0.6%
Number of limited to administrative use only routes	0	0%	0	0%	5	38.5%	5	38.5%	4.8	15.1%	4.8	15%
Number of closed routes	5	38.5%	4.7	15%	1	7.7%	-4	-30.8%	0.3	0.9%	-4.4	-14%

O.6.1.3.2 Consequences

Summary: This Alternative would be a direct, long-term moderate increase in access opportunities for all travelers to these areas. However, the increase number of routes available for all uses would result in impacts to soils, vegetation, wildlife and sensitive cultural areas (refer to those corresponding impact analysis discussions by alternative).

General Travel Access: These results would not substantially change public motorized access opportunities from Alternative A, as administrative only or closed route changes would occur only between those designations and not the open designations. The closures would directly impact administrative users to a minor degree in the long-term as 66 closed routes would become limited to administrative use only, thereby providing greater access for administrative functions.

As such, this would result in a minor, long-term, direct net gain of motorized access opportunities for the general public and a negligible gain in access availability for administrative uses. Many of the routes that would be closed were from consideration of redundant routes, therefore, the net impacts to access would be further minimized, as an access opportunity would still exist.

In the long-term, travelers would have a direct, minor, widespread increase in access opportunities in that 9 out of every 10 existing BLM route would be open to public motorized use.

As the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may be diminished to a minor, short-term extent on a localized basis as these new routes potentially become available for public use; such effects would ebb and flow with energy development.

Route Proliferation: This Alternative would directly reduce the potential for illegal route creation in the long-term, which would contribute to minimizing harassment of wildlife, disruption of wildlife habitats, damage to soil, watershed, vegetation, air, or other resources, and the potential for adversely affecting natural areas to a negligible to minor degree by reducing the number of routes with known route proliferation concerns (43 CFR 8342.1(a)(b)(d)).

Public safety Concerns: This direct, long-term, reduction of routes would moderately promote safety of all users of the public lands by reducing the potential for public safety incidents on routes with known safety concerns (43 CFR 8342.1).

O.6.1.4 Alternative D

O.6.1.4.1 Decisions:

Under Alternative D, vehicle travel would be limited to designated roads and trails on 282,285 acres of BLM public lands and limited to existing roads and trails on 145,303 acres of BLM lands in the Planning Area. This would be the same as Alternatives B and C. Additionally, 982 acres would be designated as open to motorized vehicle use (limited to motorcycle use only).

Within the South Hills OHV Area under Alternative D, 982 acres would be designated as open to motorized vehicle use (limited to motorcycle use only), and 375 acres would be closed to provide for a buffer area to adjacent residential areas. This would be a decrease of 115 acres of an open designation, as compared to Alternative A.

General Travel Access: Under the Alternative D, the 877 existing BLM routes (993 miles) that comprise the existing travel networks within the 11 TMAs would be managed using the five existing designations shown in **Error! Reference source not found.** and Figure 4.1.4a (located at the end of this document), which also compare Alternative D designations with Alternative A. Designations specific to individual TMAs are shown in **Error! Reference source not found.** and are also compared to Alternative A. Few routes (80, or 9% of overall network) would be recommended for closure to all motorized modes of travel but 449 routes (51% of overall network) would be recommended for administrative use only. This would result in 1% fewer closed routes in Alternative D than already exist in Alternative A and in 45% more routes designated for administrative use only in Alternative D than exist in Alternative A.

While the number of routes recommended for closure and administrative use only would be 9% and 51% of the overall network respectively, the actual miles of routes closed under Alternative D would be 66 or about 7% and those limited to administrative use would be 313 or about 32% of the existing mileage. This would result in 4% fewer miles of routes closed in Alternative D than the current 11% closure mileage in Alternative A. Additionally, there would be 25% more miles of routes identified for administrative use only in Alternative D than the current 6% mileage in Alternative A. So, while the actual number of routes recommended for closure barely changes (1% fewer in Alternative D than in Alternative A) the actual number of miles of closed routes changes only slightly (4% fewer in Alternative D than in Alternative A) for an overall minor loss of available access.

Routes open to all motorized uses or open with special seasonal or vehicular restrictions would decrease to a total of 348 routes (40% of the network), or about 44% fewer open routes in Alternative D than the current 84% of open routes in Alternative A. In the long-term, travelers could experience major increases in traffic on open routes due to the concentration effects of excluding public motorized use from 6 out of every 10 existing BLM routes. Fewer open routes available to the public would concentrate travelers on fewer available routes, which could diminish realization of travelers' expectations for broader, uncrowded access, moderately reducing the potential for realizing various benefits that are possible with full access. However, with regard to route miles, Alternative D would recommend 614 miles with these open designations (62% of the proposed network). This would result in 21% fewer miles of open routes in Alternative D than the current 83% in Alternative A.

As the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may be diminished to a minor, short-term extent on a localized basis as these new routes potentially become available for public use; such effects would ebb and flow with energy development.

Table O-15: Alternative D Route Designations for All TMAs (compared to Alt. A)

Alternative D Route Designations for All TMAs (compared to Alt. A)

Potential Route Designations	Alternative A				Alternative D							
	# Routes	% of Network	Miles	% Network	# Routes	% of Network	# Δ from Alt. A	% Δ from Alt. A	Miles	% of Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	726	83%	763.6	77%	332	38%	-394	-45%	530.2	53.4%	-233.4	-24%
Number of open with vehicle restrictions routes	1	0.1%	52.7	5.3%	5	0.6%	4	0.5%	68.7	6.9%	16	1.6%
Number of open with seasonal restrictions routes	7	0.8%	7.2	0.7%	11	1.3%	4	0.5%	15.1	1.5%	7.9	0.8%
Number of limited to administrative use only routes	54	6.2%	61.1	6.2%	449	51%	395	45%	313.0	31.5%	251.9	25.4%
Number of closed routes	89	10%	108.6	11%	80	9%	-9	-1.0%	66.0	6.6%	-42.6	-4.3%
Average number/miles <u>open</u> routes per square mile (density)	1.5	X	1.7	X	0.7	X	-0.8	52.6%	1.2	X	-0.4	25.4%

Route Density: While Alternative A would continue managing existing route network at an average route density of 1.5 open routes per square mile at 1.7 miles per square mile for the TMAs, Alternative D would greatly reduce densities across all TMAs to an average of 0.7 open routes per square mile (an 53% reduction) at an average of 1.2 miles per square mile (a 25% reduction). On a specific TMA basis, the Tin Can Hill TMA would have the highest density of open routes at 2 routes per square mile while the Shepherd TMA would have the lowest density of open routes at 0.3 routes per square mile. In terms of miles of routes per square mile, the Shepherd TMA would have the high among the TMAs of 7.2 miles of open routes, while Warren TMA would have the low of 0.4 miles of open routes (See Figure 4.1.4b located at the end of this document).

Given that areas with densities under 1 open route and/or 1 open mile per square mile could be considered much less accessible by motorized travelers, eight TMAs in Alternative D (Gage Dome/Colony, Cottonwood/Weatherman, Grove Creek, Horsethief, Mill Creek/Bundy, Pryors, Shepherd and Warren) would meet or exceed this standard, primarily in routes per square mile.

Route Proliferation: Error! Reference source not found. displays the Alternative D route designations compared to the Alternative A designations for the 609 routes (781 miles) where route proliferation concerns were noted during the route evaluation process for 9 TMAs. Alternative D designations of 'closed', 'limited', or 'open with restrictions' on 355 routes (357 miles), would restrict access on 58% of the routes identified as having route proliferation

concerns; 41% more routes with restrictions in Alternative D than the current 18% in Alternative A.

Table O-16: Alternative D Routes In/Thru Route Proliferation Area of Concern for All TMAs
Alternative D Routes In/Thru Route Proliferation Area of Concern for All TMAs

Potential Route Designations	Alternative A				Alternative D							
	# Selected Routes	% of Selected Network	Miles Selected Routes	% Selected Network	# Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A	Miles Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	502	82%	591.7	76%	254	41.7%	-248	-40.7%	424.7	54.4%	-167	-21%
Number of open with restrictions routes	5	0.8%	58.8	7.5%	12	2.0%	7	1.1%	81.6	10.4%	22.8	2.9%
Number of limited to administrative use only routes	17	2.8%	25.9	3.3%	285	46.8%	268	44%	216.9	27.8%	191.0	24.4%
Number of closed routes	85	14%	104.9	13%	58	9.5%	-27	-4.4%	58.2	7.4%	-46.7	-6.0%

Public Safety Concerns: Error! Reference source not found. displays the Alternative D route designations compared to the Alternative A designations for the 13 routes (32 miles) where public safety concerns were noted during the route evaluation process for 3 TMAs. Alternative D designations of 'closed', 'limited', or 'open with restrictions' on 9 routes (12 miles), would restrict access on 69% of the routes identified as having public safety concerns; 31% more routes with restrictions in Alternative D than the current 39% in Alternative A.

Table O-17: Alternative D Routes with Public Safety Concerns for All TMAs
Alternative D Routes with Public Safety Concerns for All TMAs

Potential Route Designations	Alternative A				Alternative D							
	# Selected Routes	% of Selected Network	Miles Selected Routes	% Selected Network	# Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A	Miles Selected Routes	% of Selected Network	# Δ from Alt. A	% Δ from Alt. A
Number of open routes	8	61.5%	26.9	85%	4	31%	-4	-31%	19.9	63%	-7	-22%
Number of open with restrictions routes	0	0%	0	0%	3	23%	3	23%	6.7	21%	6.7	21.2%
Number of limited to administrative use only routes	0	0%	0	0%	4	31%	4	31%	2.9	9%	2.9	9.2%
Number of closed routes	5	38.5%	4.7	15%	2	15%	-3	-23%	2.1	7%	-2.6	-8%

O.6.1.4.2 Consequences

Summary: Generally, under Alternative D, fewer routes would be designated as open to all forms of motorized travel than in Alternatives A and C (refer to Figure 4.1.3a: Alternative D Route Designations for All TMAs (compared to Alt. A)). The result would be a direct, long-term moderate decrease in access opportunities for all travelers to these areas. However, the consideration of motorized travel to other resources would minimize impacts to soils, vegetation, wildlife and sensitive cultural areas (refer to those corresponding impact analysis discussions by alternative).

General Travel Access: These results would be a long-term, direct, widespread, moderate reduction in general public access opportunities via motorized modes of travel. The closures would not greatly impact administrative users, but the additional administrative use only routes would, to a minor degree in the long-term, increase access for such uses. This would result in a minor, long-term, direct loss of motorized access opportunities for the general public and a negligible change in access availability for administrative uses, as such uses would continue to have access on administrative routes, absent of public use.

Route Density: As such, in this Alternative, the route designations of Alternative D would constitute a long-term, direct, localized major restriction of motorized access in terms of travel dispersal opportunities in 8 of 10 TMAs. However, limiting route densities would benefit sensitive resource concerns due to wildlife, cultural, or other ecologically sensitive areas (refer to those corresponding resource sections for impact analysis).

Route Proliferation: This Alternative would directly reduce the potential for illegal route creation in the long-term, which would contribute to minimizing harassment of wildlife, disruption of wildlife habitats, damage to soil, watershed, vegetation, air, or other resources, and the potential for adversely affecting natural areas to a moderate to major degree by reducing the number of routes with known route proliferation concerns (43 CFR 8342.1(a)(b)(d)).

Public Safety Concerns: This direct, long-term, reduction of routes would promote safety of all users of the public lands to a moderate to major degree by reducing the potential for public safety incidents on routes with known safety concerns (43 CFR 8342.1).

O.6.2 Implementation Level Impacts from Trails and Travel Management

This section discusses effects of alternatives for 11 site-specific travel plan areas (implementation decisions). This section is organized by resources/resource uses, by alternative, where implementation level impacts from motorized travel management actions, relative to 11 Travel Management Areas, would result in measurable impacts. Those resources/resources uses not specifically discussed would have negligible impacts.

O.6.2.1 Air Resources

O.6.2.1.1 Impacts Common to All Alternatives

Management of trails and routes will impact air quality. The greatest impacts to air quality from the use of trails and routes would result from motorized travel. These impacts vary greatly by the

route/trail surface, transportation mode, soil type, soil condition, size of vehicle, and speed of travel.

Most uses would increase fugitive dust; however there are no areas within the planning area which have a severe WEI rating. Additionally, mechanized travel would also increase tail pipe emissions. Throughout all alternatives the BLM would either leave routes open or closed, however simply closing roads does not reduce or eliminate impacts to air quality. The public is likely to shift use to other roads in the same area or move to a different area to recreate. In some instances, shifting to a different area could mean longer travel distances resulting in more impacts to air quality. Fewer miles of open roads would concentrate usage and impacts on the remaining open roads in an area. Since usage would likely remain at the same level, tailpipe emissions would be unaffected and localized fugitive dust levels would increase where more concentrated route use occurs.

Fugitive dust levels would decrease where road closures allow native plants to re-colonize the disturbed areas. Limiting authorized travel to administrative use would reduce traffic to a minimum and would have a similar effect to closures. The net effect of limiting and/or closing routes would be localized and would not be expected to offset increases where use is more concentrated.

Construction or maintenance of higher standard routes has the potential for greater speeds increasing fugitive dust. Unimproved and un-maintained routes generally keep vehicle speeds lower, reducing dust levels.

Impacts to air quality in the immediate vicinity of heavily used off road areas would be minor to moderate but would be short in duration. Route-maintenance activities, which would be limited to existing route types, maintenance levels, and frequencies, would also result in emissions. Watering and the use of chemical dust suppressants would greatly reduce the amount of dust emissions from maintenance and on haul roads from gravel pits, mines, and oil drilling sites.

O.6.2.1.2 Alternative A

Impacts would be the same as impacts common to all alternatives. Under Alternative A, all routes are "open" to all types of vehicle travel during all seasons with the exception of Shepherd Ah-Nei, South Hills, Sundance Lodge, Four Dances, Pompeys Pillar, and the Pryor Mountain Wild Horse Range which are closed or have designated open travel routes. Management under this alternative is summarized in **Error! Reference source not found.** below:

Table O-18: Travel Management Alternative A

Travel Management Alternative A	
Closed to All Vehicles	109 miles
Open to Motorcycles Only	1357 acres
Open to Technical 4WD by Permit Only	0

Open to Vehicles 50" or less	53 miles
Open Routes	764 miles
Open with additional management/seasonal closures	7 miles
Administrative Use Only	61 miles

The Shepherd Ah-Nei area has 53 miles of trails open for ATV and motorcycle use subject to closures to protect rider safety and protect resource values. South Hills (1,097 acres) is open to motorcycles only. Sundance Lodge (387 acres), Four Dances (784 acres) are closed to motorized travel and emissions from OHV are reduced to only those from administrative activities. All routes at Pompeys Pillar outside the National Monument are closed except for administrative use. The National Monument visitors travel the 1/2 mile of paved road to the monument.

O.6.2.1.3 Alternative B

Impacts would be the same as impacts common to all alternatives. Management under Alternative B is summarized in **Error! Reference source not found.** below.

Table O-19: Travel Management Alternative B

Travel Management Alternative B	
Closed to All Vehicles	397 miles
Closed to Motorcycles	1357 acres
Open to Technical 4WD by Permit Only	0
Open to Vehicles 50" or less	65 miles
Open Routes	272 miles
Open with additional management/seasonal closures	12 miles
Administrative Use Only	247 miles

Closures of routes would likely move usage to other open routes or other areas with open routes, impacts to air resources would be unchanged. Routes designated open or limited with monitoring would increase awareness of emerging air quality issues and allow timely adaptive management thus reducing air resource impacts. Routes that are designated open with monitoring would provide the greatest opportunity to address air resource impacts. Routes that are designated limited with monitoring or limited to administrative use with monitoring would allow vegetative re-colonization and allow timely use of adaptive management, but usage and impacts would likely be shifted to another area. While Alternative B closes the most routes in the TMAs and the number of open with monitoring routes is larger than other Alternatives. Since public demand for access to public lands is expected to rise and closing routes would likely concentrate usage, Alternative B affords the best opportunity to limit impacts to air quality.

The overall impact to air quality in this Alternative would not be expected to exceed air quality standards.

O.6.2.1.4 Alternative C

Impacts would be the same as impacts common to all alternatives. Eleven areas would be designated as TMAs and routes managed under a Travel Management Plan. More specific management designated in a travel plan would be expected to further lower impacts to air resources. The overall impact to air quality in this Alternative would be localized and minor to negligible. The public would have access to 736 miles of open road subject to closures for safety and to protect resources. Increased demand and usage is expected but the overall impact to air quality in this Alternative would be localized and short term.

The following management under Alternative C is listed in **Error! Reference source not found.** below.

Table O-20: Travel Management Alternative C

Travel Management Alternative C	
Closed to All Vehicles	6 miles
Open to Motorcycles only	1357 acres
Open to Technical 4WD by Permit Only	1.5 miles
Open to Vehicles 50" or less	71 miles
Open Routes	825 miles
Open with additional management/seasonal closures	0.2 miles
Administrative Use Only	91 miles

O.6.2.1.5 Alternative D

Impacts would be the same as impacts common to all alternatives. Eleven areas would be designated as TMAs and routes managed under a Travel Management Plan. The number of miles of Open routes is 234 miles lower than Alternative A. Less open routes would allow more route reclamation resulting in less emissions and fugitive dust. More specific management designated in a travel plan would be expected to further lower the impacts. The overall impact to air quality in this Alternative would be localized and negligible. Management under this alternative is summarized in **Error! Reference source not found.** below:

Table O-21: Travel Management Alternative D

Travel Management Alternative D	
Closed to All Vehicles	66 miles
Open to Motorcycles only	1357 acres
Open to Technical 4WD by Permit Only	0

Open to Vehicles 50" or less	69 miles
Open Routes	530 miles
Open with additional management/seasonal closures	15 miles
Administrative Use Only	313 miles

O.6.2.2 Soil Resources

O.6.2.2.1 Impacts Common to All Alternatives

The primary impacts to soils from other management programs in the Planning Area include human-caused excessive erosion, soil compaction, and visual scars. These, in turn, can affect other resources such as water quality and quantity, health and makeup of vegetation communities, riparian function, health and sustainability of fish and wildlife habitats, etc.

Specifically, travel and transportation attributes, such as route type (primitive roads versus maintained roads), frequency and levels of use, types of vehicles, vehicle speeds, route structure, soil type, and surface type, come into play when assessing impacts to soils. Planning decisions that involve changes to the available number and overall miles of roads open for public or administrative use, the number of acres open or closed to off-road travel, road improvement or maintenance activities, or specific travel restrictions (e.g., speed limits, seasonal restrictions; etc.) would affect soils resources to varying degrees. Inasmuch as the use of motor vehicles on public routes constitutes the primary means of access to public lands for visitors to engage in a wide variety of motorized and non-motorized recreation activities and for commercial and administrative users to access facilities and resources, the supply and spatial extent of travel access networks for motor vehicles is an important factor in the condition of soils in the Travel Management Areas (TMA).

Travel through the TMAs is expected to increase due to the increased demand for open space and commercial recreation opportunities on public lands, as well as periodic up trends in energy exploration and development, including renewable energy production.

In analyzing the potential effects of route designations on soils, differences between each action alternative's set of route designations and the no action, current management route designations are analyzed and expressed primarily in terms of 'absolute percent change' versus a more familiar method of expressing 'relative percent change'. As a comparative example, in relative terms, an alternative that proposes to close 562 routes in Alternative X out of the total 877 routes that exist where only 89 routes out of 877 routes are closed under No Action represents a 631% increase in the number of routes closed in Alternative X relative to the No Action Alternative. In absolute terms, however, the 89 closed routes in the No Action Alternative represent 10% of the current total network while under Alternative X, the 562 closed routes represent 64% of the potential network, resulting in 54% more routes closed in Alternative X than in the No Action Alternative. Planners determined to use the 'absolute percent change', primarily because a) the route 'population', or total number of routes under consideration for designation is constant for all alternatives for each query and b) planners believe the results better depict the 'shifting' of designations within alternatives using the same route inventory.

By alternative, the impacts of route designations were analyzed with respect to several variables. These analyses were used to determine the effects of each alternative's route designations on soil resources.

O.6.2.2.2 Alternative A

In the following analyses, for all alternatives, impacts are categorized as:

- *N = Negligible = 8 out of 10 to 10 out of 10 routes open*
- *MI = Minor = 5 out of 10 to 7 out of 10 routes open*
- *MO = Moderate = 3 out of 10 to 4 out of 10 routes open*
- *MA = Major = 0 out of 10 to 2 out of 10 routes open*

Soils with Severe Water Erosion Hazard Rating: Under the No Action Alternative, the 241 existing BLM routes (95 miles) that comprise the travel networks within soils with a severe water erosion rating would continue to be managed using five existing designation types, almost 9 out of every 10 existing routes (about 87%) open to all motorized uses. Additionally, the route density within these severe soils would remain fairly constant for the long-term at 4.2 open routes per square mile and 1.6 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes affects approximately 129 acres or 0.4% of the 31,783 acres of soils with a severe water erosion hazard rating within the TMAs. In other words, for every 1 acre of route footprint within these soils, 245 acres would be without routes.

Under the No Action Alternative, the current open route network would continue the long-term, widespread conditions that directly and moderately affect soils rated as severe, regarding the water erosion hazard. Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may increase to a minor, short-term extent on a localized basis as these new routes potentially become available and spread out public use; such effects would ebb and flow with energy development.

Although Alternative A carries forward closures and restrictions to administrative use only on 32 routes at 14 miles, the long-term, direct, localized effect of these restricted routes on reducing soil loss is negligible, due to the availability of 209 open routes at 82 miles with the route densities that are described above.

Soils with Moderate Water Erosion Hazard Rating: Under the No Action Alternative, the 323 existing BLM routes (173 miles) that comprise the travel networks within soils with a moderate water erosion rating would continue to be managed using five existing designation types, over 8 out of every 10 existing routes (about 85%) open to all motorized uses. Additionally, the route density within these moderate soils would remain fairly constant for the long-term at 3.9 open routes per square mile and 2.0 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes affects approximately 192 acres or 0.4% of the 45,512 acres of soils with a moderate water erosion hazard rating within the TMAs. In other words, for every 1 acre of route footprint within these soils, 236 acres would be without routes.

Under the No Action Alternative, the current open route network would continue the long-term, widespread conditions that directly and moderately affect soils rated as moderate, regarding the water erosion hazard. Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may increase to a minor, short-term extent on a localized basis as these new routes potentially become available and spread out public use; such effects would ebb and flow with energy development.

Although Alternative A carries forward closures and restrictions to administrative use only on 48 routes at 32 miles, the long-term, direct, localized effect of these restricted routes on reducing soil loss is negligible, due to the availability of 275 open routes at 142 miles with the route densities that are described above.

TMA with known erosion scars: Under the No Action Alternative, of the 206 routes that were noted during evaluation as having erosion scars, 182 or 88% would be open to all types of motor vehicle use, 5 or 2% would be open with restrictions, while 16 routes or 8% would be limited to administrative use only and 3 routes or 2% would be closed. In the long-term, almost 9 out of every 10 existing BLM routes with erosion scars would remain available for public access in the No Action Alternative. With 88% of existing routes potentially open and only 12% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion potential in areas with known erosion scars would be negligible (43 CFR 8342.1(a)(d)).

Route Types: Motorized use occurs in many forms, all of which depend on travel networks that contain routes that are not only open to such uses, but also route types and/or conditions that are more conducive to particular types of motorized use. Well-designed, regularly maintained routes can do much in the way of reducing excessive erosion during heavy precipitation events, while a more primitive route with no design and little maintenance might actually contribute more to excessive erosion, though the actual surface disturbance area is less.

With regard to route types, of the 877 routes under the No Action Alternative, 50 routes (about 6%) currently classed as "roads" in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 1 route (0.1%) classed as "semi-primitive roads", 673 routes (76.8%) classed as "primitive roads" and 8 routes (0.9%) classed as "trails" would be open/open with restrictions. Conversely, 1 route (about 0.1%) currently classed as "roads" in the TMAs would be limited to administrative use only or closed, while 14 routes (1.6%) classed as "semi-primitive roads", 127 routes (14.5%) classed as "primitive roads" and 1 route (0.1%) classed as "trails" would be administrative use only or closed.

Vehicle Use Levels in TMAs: Of the existing BLM routes within the TMAs under the No Action Alternative, 542 open routes (470 miles) or 81% are considered by resource specialists to have low vehicle use levels. Conversely, 95 open routes (219 miles) or 14% have vehicle use levels estimated as moderate and only 33 open routes (95 miles) or 5% are estimated to have heavy vehicle use. The combination of 89 closed routes (108 miles or 10% of all routes) and the continuation of low vehicle use levels on 81% of all open routes (60% of open route miles) would directly contribute, in the long-term, to lessening of the effects of route use, such as excessive loss of fine soils materials, soil compaction, the potential of off-road driving, etc. to a minor degree (43 CFR 8342.1(a)(d)).

Compared to Alternatives B and D, Alternative A would designate a much higher percentage of roads as “open”, which would lead to increased resource conflicts from impacts identified in this section. Alternative A would have similar impacts to soil resources as Alternative C.

O.6.2.2.3 Alternative B

Soils with Severe Water Erosion Hazard Rating: Under Alternative B, the 241 existing BLM routes (95 miles) that comprise the travel networks within soils with a severe water erosion rating would be managed using five existing designation types shown, with just over 2 out of every 10 existing routes (49 routes or about 20%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 65% fewer open routes in Alternative B than would be open in Alternative A. Additionally; the route density within these soil areas would be reduced by 77% for the long-term to 1.0 open route per square mile and reduced by 50% to 0.8 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes would affect approximately 79 acres or 0.25% of the 31,783 acres of severe rated soils within the TMAs (34% fewer acres than in Alternative A). In other words, for every 1 acre of route footprint within these soils, 403 acres would be without routes.

Alternative B proposes closures and restrictions to administrative use only on a combined 192 routes at 54 miles, a 66% more than in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing soil loss is moderate to major, due to the reduced availability and use of open routes to only 49 (at 41 miles) with the route densities that are described above.

Soils with Moderate Water Erosion Hazard Rating: Under Alternative B, the 323 existing BLM routes (173 miles) that comprise the travel networks within soils with a moderate water erosion rating would be managed using five existing designation types shown, with almost 2 out of every 10 existing routes (55 routes or about 17%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 68% fewer open routes in Alternative B than would be open in Alternative A. Additionally; the route density within these soil areas would be reduced by 80% for the long-term to 0.8 open routes per square mile and reduced by 42% to 1.2 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes would affect approximately 118 acres or 0.26% of the 45,512 acres of moderate rated soils within the TMAs (32% fewer acres than in Alternative A). In other words, for every 1 acre of route footprint within these soils, 383 acres would be without routes.

Alternative B proposes closures and restrictions to administrative use only on a combined 268 routes at 91 miles, a 68% more than in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing soil loss is moderate to major, due to the reduced availability and use of open routes to only 55 (at 82 miles) with the route densities that are described above.

TMAs with known erosion scars: Under Alternative B, of the 206 routes that were noted during evaluation as having erosion scars, 26 or 13% would be open to all types of motor vehicle use (almost 76% fewer than in Alternative A), 5 or 2% would be open with restrictions (same as Alternative A), while 60 routes or 29% would be limited to administrative use only (21% more than in Alternative A) and 115 routes or 56% would be closed (54% more than in Alternative A). In the long-term, almost 2 out of every 10 existing BLM routes having erosion scars would remain available for public access in Alternative B. With 18% of existing routes potentially open

and 82% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion potential in areas with known erosion scars would be major (43 CFR 8342.1(a)(d)).

Route Types: With regard to route types, of the 877 routes under the Alternative B, 29 routes (about 2% fewer than Alternative A) currently classed as “roads” in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 1 route (same as Alternative A) classed as “semi-primitive roads”, 56 routes (70% fewer than Alternative A) classed as “primitive roads” and 2 routes (0.7% fewer than Alternative A) classed as “trails” would be open/open with restrictions. Conversely, 22 routes (about 2.4% more than Alternative A) currently classed as “roads” in the TMAs would be limited to administrative use only or closed, while 14 routes (same as Alternative A) classed as “semi-primitive roads”, 742 routes (70% more than Alternative A) classed as “primitive roads” and 7 routes (0.7% more than Alternative A) classed as “trails” would be administrative use only or closed.

Vehicle Use Levels in TMAs: Of the existing BLM routes within the TMAs under the Alternative B, 31 of the open routes (107 miles) or 34% are considered by resource specialists to have low vehicle use levels. Conversely, 35 of the open routes (154 miles) or 44% have vehicle use levels estimated as moderate and only 26 of the open routes (89 miles) or 28% are estimated to have heavy vehicle use. The combination of 562 closed routes (397 miles or 64% of all routes) and the low vehicle use levels on 34% of open routes (31% of open route miles) and 79% of all administrative use only routes (78% of all administrative route miles) would directly contribute, in the long-term, to lessening of the effects of route use, such as excessive loss of fine soils materials, soil compaction, the potential of off-road driving, etc. to a major degree (43 CFR 8342.1(a)(d)).

Alternative B would be the most protective and beneficial to soil resources with nearly 64% of all route miles closed.

O.6.2.2.4 Alternative C

Soils with Severe Water Erosion Hazard Rating: Under Alternative C, the 241 existing BLM routes (95 miles) that comprise the travel networks within soils with a severe water erosion rating would be managed using five existing designation types shown, with almost 9 out of every 10 existing routes (214 routes or about 89%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 2% more open routes in Alternative C than would be open in Alternative A. Additionally, the route density within these soil areas would be increased by 2.4% for the long-term to 4.3 open routes per square mile and increased by 6.4% to 1.7 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes would affect approximately 136 acres or 0.4% of the 31,783 acres of severe rated soils within the TMAs (5% more acres than in Alternative A). In other words, for every 1 acre of route footprint within these soils, 232 acres would be without routes.

Alternative C proposes closures and restrictions to administrative use only on a combined 27 routes at 54 miles, a 2% fewer than in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing soil loss is negligible, due to the increased availability and use of open routes to 214 (at 87 miles) with the route densities that are described above.

Soils with Moderate Water Erosion Hazard Rating: Under Alternative C, the 323 existing BLM routes (173 miles) that comprise the travel networks within soils with a moderate water erosion rating would be managed using five existing designation types shown, with over 8 out of every 10 existing routes (271 routes or about 84%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 1% fewer open routes in Alternative C than would be open in Alternative A. Additionally, the route density within these soil areas would be decreased by 1.5% for the long-term to 3.8 open routes per square mile and increased by 13% to 2.2 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes would affect approximately 215 acres or 0.5% of the 45,512 acres of moderate rated soils within the TMAs (9.6% more acres than in Alternative A). In other words, for every 1 acre of route footprint within these soils, 211 acres would be without routes.

Alternative C proposes closures and restrictions to administrative use only on a combined 52 routes at 14 miles, a 1% more than in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing soil loss is negligible, due to the increased availability and use of open routes to 271 (at 159 miles) with the route densities that are described above.

TMAs with known erosion scars: Under Alternative C, of the 206 routes that were noted during evaluation as having erosion scars, 176 or 85% would be open to all types of motor vehicle use (3% fewer than in Alternative A), 4 or 2% would be open with restrictions (slightly less than Alternative A), while 20 routes or 10% would be limited to administrative use only (2% more than in Alternative A) and 6 routes or 3% would be closed (2% more than in Alternative A). In the long-term, over 8 out of every 10 existing BLM routes having erosion scars would remain available for public access in Alternative C. With 87% of existing routes potentially open and only 13% potentially limited to administrative use only, the localized, long-term effect of these route restrictions on reducing erosion potential in areas with known erosion scars would be negligible (43 CFR 8342.1(a)(d)).

Route Types: With regard to route types, of the 877 routes under the Alternative C, 50 routes (same as Alternative A) currently classed as "roads" in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 12 routes (1.3% fewer than Alternative A) classed as "semi-primitive roads", 664 routes (1% fewer than Alternative A) classed as "primitive roads" and 7 routes (0.1% fewer than Alternative A) classed as "trails" would be open/open with restrictions. Conversely, 1 route (same as Alternative A) currently classed as "roads" in the TMAs would be limited to administrative use only or closed, while 3 routes (1.2% fewer than Alternative A) classed as "semi-primitive roads", 136 routes (1% more than Alternative A) classed as "primitive roads" and 2 routes (0.1% more than Alternative A) classed as "trails" would be administrative use only or closed.

Vehicle Use Levels in TMAs: Of the existing BLM routes within the TMAs under the Alternative C, 533 of the open routes (504 miles) or 80% are considered by resource specialists to have low vehicle use levels. Conversely, 95 of the open routes (221 miles) or 14% have vehicle use levels estimated as moderate and only 35 of the open routes (96 miles) or 5% are estimated to have heavy vehicle use. The combination of 22 closed routes (6 miles or 3% of all routes), the low vehicle use levels on 80% of the open routes (61% of open route miles) and 98% of administrative use only routes (99% of administrative route miles) would directly contribute, in the long-term, to lessening of the effects of route use, such as excessive loss of fine soils

materials, soil compaction, the potential of off-road driving, etc. to a minor degree (43 CFR 8342.1(a)(d)).

Alternative C actions would have the most adverse impacts to soil resources by managing approximately 90% of route miles as open and leaving almost 86% of roads open that are associated with moderate and severely erodible soils.

0.6.2.2.5 Alternative D

Soils with Severe Water Erosion Hazard Rating: Under Alternative D, the 241 existing BLM routes (95 miles) that comprise the travel networks within soils with a severe water erosion rating would be managed using five existing designation types shown, with over 5 out of every 10 existing routes (131 routes or about 54%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 32% fewer open routes in Alternative D than would be open in Alternative A. Additionally, the route density within these soil areas would be decreased by 37% for the long-term to 2.6 open routes per square mile and decreased by 20% to 1.3 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes would affect approximately 110 acres or 0.35% of the 31,783 acres of severe rated soils within the TMAs (13% fewer acres than in Alternative A). In other words, for every 1 acre of route footprint within these soils, 288 acres would be without routes.

Alternative D proposes closures and restrictions to administrative use only on a combined 110 routes at 30 miles, a 32% more than in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing soil loss is minor, due to the increased availability and use of open routes to 131 (at 65 miles) with the route densities that are described above.

Soils with Moderate Water Erosion Hazard Rating: Under Alternative D, the 323 existing BLM routes (173 miles) that comprise the travel networks within soils with a moderate water erosion rating would be managed using five existing designation types shown, with over 4 out of every 10 existing routes (148 routes or about 46%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 39% fewer open routes in Alternative D than would be open in Alternative A. Additionally, the route density within these soil areas would be decreased by 46% for the long-term to 2.1 open routes per square mile and decreased by 18% to 1.6 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes would affect approximately 160 acres or 0.35% of the 45,512 acres of moderate rated soils within the TMAs (14% fewer acres than in Alternative A). In other words, for every 1 acre of route footprint within these soils, 284 acres would be without routes.

Alternative D proposes closures and restrictions to administrative use only on a combined 175 routes at 73 miles, a 39% more than in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing soil loss is minor to moderate, due to the increased availability and use of open routes to 148 (at 116 miles) with the route densities that are described above.

TMAs with known erosion scars: Under Alternative D, of the 206 routes that were noted during evaluation as having erosion scars, 79 or 38% would be open to all types of motor vehicle use (50% fewer than in Alternative A), 9 or 4% would be open with restrictions (2% more than Alternative A), while 96 routes or 47% would be limited to administrative use only (39% more than in Alternative A) and 22 routes or 11% would be closed (9% more than in Alternative A). In

the long-term, just over 4 out of every 10 existing BLM routes having erosion scars would remain available for public access in Alternative D. With 42% of existing routes potentially open and 58% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion potential in areas with known erosion scars would be moderate (43 CFR 8342.1(a)(d)).

Route Types: With regard to route types, of the 877 routes under the Alternative D, 40 routes (about 1.1% fewer than Alternative A) currently classed as “roads” in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 4 routes (0.3% more than Alternative A) classed as “semi-primitive roads”, 298 routes (about 43% fewer than Alternative A) classed as “primitive roads” and 4 routes (0.5% fewer than Alternative A) classed as ‘trails’ would be open/open with restrictions. Conversely, 11 routes (about 1.1% more than Alternative A) currently classed as “roads” in the TMAs would be limited to administrative use only or closed, while 11 routes (0.4% fewer than Alternative A) classed as “semi-primitive roads”, 502 routes (43% more than Alternative A) classed as “primitive roads” and 5 routes (0.4% more than Alternative A) classed as ‘trails’ would be administrative use only or closed.

Vehicle Use Levels in TMAs: Of the existing BLM routes within the TMAs under the Alternative D, 218 of the open routes (296 miles) or 66% are considered by resource specialists to have low vehicle use levels. Conversely, 79 open routes (212 miles) or 24% have vehicle use levels estimated as moderate and only 34 of the open routes (96 miles) or 10% are estimated to have heavy vehicle use. The combination of 80 closed routes (66 miles or 9% of all routes) and the low vehicle use levels on 66% of open routes (49% of open route miles) and 95% of administrative use only routes (96% administrative route miles) would directly contribute, in the long-term, to lessening of the effects of route use, such as excessive loss of fine soils materials, soil compaction, the potential of off-road driving, etc. to a moderate degree (43 CFR 8342.1(a)(d)).

O.6.2.3 Water Resources

O.6.2.3.1 Impacts Common to All Alternatives

Motorized and mechanized modes of travel on the BLM-administered land (outside of established TMAs) would be limited to existing roads and trails. Site-specific travel planning would be initiated if resources were impacted (not meeting Land Health Standards, excessive erosion). In all Alternatives, the BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. Prohibiting off road travel reduces erosion and protects water quality and riparian resources.

Travel planning designated 11 Travel Management Areas (TMAs) to designate specific routes as open, closed or limited to administrative use. Resource values and impacts from resource uses were used to develop a range of Alternatives designed to protect resources and comply with specific resource objectives while maintaining a sound multiple use condition.

The primary issues related to water resources are the preservation of water quality, erosion, and drainage from road surfaces into wetlands. More specifically, the existence of routes with their areas of surface disturbance, as well as the use of motor vehicles on those routes that are

associated with water courses and/or sensitive soils constitutes a primary activity that has the potential to adversely affect water resources. Relative to travel management, this can occur by improper placement of routes; inappropriate behavior by visitors in these areas; the spread of invasive species or noxious weeds; or unauthorized off-road vehicle use. Therefore, the supply and spatial extent of travel access networks for motor vehicles is an important component for managing or providing various levels of protection for water resources.

O.6.2.3.2 Alternative A

See impacts common to all for general discussion pertaining to travel management impacts to water resources.

Motorized and mechanized modes of travel on the BLM-administered land (outside of established TMAs) would be limited to existing roads and trails. Site-specific travel planning would be initiated if water resources were impacted (not meeting Land Health Standards, excessive erosion). The BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. Prohibiting off road travel reduces erosion and protects water quality and riparian resources.

The following analysis determines the impacts of potential water pollution sources associated with routes in proximity to different types of water sources and when in areas where severe or moderate erosion rated soils were identified. These characteristics were determined to have the most potential to impact water resources, pertaining to travel management.

Routes in and through perennial channels (within 25 feet): Of the 1.1 miles (5 routes) that are within 25 feet of perennial channels, 1 mile (4 routes) would be open and 0.1 mile (1 route) would be closed. Therefore 91 percent of these routes would continue producing sediment in close proximity of the stream. This sediment has a high likelihood of impacting water quality. There is also a high likelihood that noxious invasive species could increase thereby decreasing bank stability and producing additional sediment.

Routes associated with perennial channels (in, through, crossing, leads to/end at, proximate within 0.25 miles): Under the No Action Alternative, of the 63 routes that are in or through or proximate within 0.25 miles of perennial channels, 55 routes, or 87 percent, would be open to all types of motor vehicle use, and 8 routes or 13 percent would be closed. In the long-term, almost 9 out of every 10 existing BLM routes in or through or within 0.25 miles of perennial channels would remain available for public access. The localized, long-term effect of these open routes (erosion, drainage from road surfaces and the spread of noxious weeds into wetlands) and the potential for direct and indirect impacts to water resources would be major (43 CFR 8342.1(a)(d)).

Routes crossing or proximate to perennial channels in severe/moderate water erosion rated soils (in, through, within 300 feet of perennial): All 4.2 miles (14 routes) that are in, through or within 300 feet of perennial channels that are in severe or moderate water erosion rated soils, would be open to all vehicle uses. The actual footprint (area of surface disturbance) of open routes would be approximately eight acres in these areas. These sites have a high likelihood of extreme erosion with sediment delivery being a function of distance to the stream (43 CFR 8342.1(a)(d)).

Routes in and through intermittent channels (within 10 feet): Of the 158 routes with 82 miles that are in or through or within 10 feet of intermittent channels, 122 routes with 58 miles and 1 route at 5 miles open with vehicle restrictions would be open to use (77%), while 8 routes with 4 miles (5%) limited to administrative use and 27 routes with 15 miles (18%) would be closed. With about 77 percent of existing route miles potentially open and about 23 percent potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these routes impacting water resources through erosion and drainage from road surfaces and the spread of noxious weeds into wetlands and the potential for direct and indirect impacts to water values would be major (43 CFR 8342.1(a)(d)).

Routes associated with intermittent channels (in, through, crossing, leads to/end at, proximate within 300 feet): Of the 642 routes that are in, through or within 300 feet of intermittent channels, 525 routes or 82 percent would be open to use, while 1 of the routes or 0.2 percent would be open with vehicle restrictions and 6 routes or 0.9 percent would be open with seasonal restrictions. Additionally, 35 routes or 6 percent would be limited to administrative use only and 75 routes or 12 percent would be closed. In the long-term, over 8 out of every 10 existing BLM routes in, through or within 300 feet of intermittent channels would remain available for public access in the No Action Alternative. With about 83 percent of existing routes potentially open and about 17 percent potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these routes impacting water resources through erosion and drainage from road surfaces and the spread of noxious weeds into wetlands and the potential for direct and indirect impacts to water values would be major (43 CFR 8342.1(a)(d)).

O.6.2.3.3 Alternative B

See impacts common to all for general discussion pertaining to travel management impacts to water resources.

In action alternatives the BLM establishes Travel Management Areas (TMAs) to minimize impacts and provide a spectrum of motorized and non-motorized recreational opportunities. In each TMA motorized travel routes are designated open, closed or open with restrictions by resource issues analyzed in travel planning. Outside of the TMAs, motorized and mechanized travel would be limited to designated roads and trails as established in the 2001 OHV EIS. These routes have negligible impacts on water resources. Riparian areas are monitored for PFC on a regular basis and resource issues, primarily erosion/run-off and noxious invasive species spread, would be managed on a case by case basis as they are identified. In this alternative, riparian areas would be prioritized, by resource concerns, and treated to maintain or improve water quality conditions.

An implementation and monitoring plan would be initiated for the TMAs within 3-5 years of the ROD. The plan would include signing, mapping, information and education, and monitoring of impacts associated with continued use on designated open routes, etc. The implementation plan would also identify criteria for route variances specific to each TMA. In this plan, the BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. The travel plan would also allow for, upon project completion, roads used for commercial or administrative access on BLM-administered lands would be reclaimed, unless the route provides

specific benefits for public access, minimizes impacts to the resource and would be considered on a case-by-case basis.

The BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. Prohibiting off road travel reduces erosion and protects water quality and riparian resources.

Alternative B is the most restrictive in closing roads or limiting them to vehicle types, dates or to administrative use only. Impacts to water quality from the effects of erosion, sediment delivery to water sources and the spread of noxious weeds to areas that may impact water quality, would be the least in alternative B travel management.

The following analysis determines the impacts of potential water pollution sources associated with routes in proximity to different types of water sources and when in areas where severe or moderate erosion rated soils were identified. These characteristics were determined to have the most potential to impact water resources, pertaining to travel management.

Routes in and through perennial channels (within 25'): Of the 5 routes that are within 25' of perennial channels, 2 routes with 0.3 miles (27%) would be open, while no routes would be limited to administrative use only and 3 routes with 0.8 miles (73%) would be closed. Therefore 27 percent of these route miles would continue producing sediment in close proximity of the stream. Alternative B road designations would have the least impact, with less sediment input to perennial channels and less likelihood of promoting noxious weed infestations (43 CFR 8342.1(a)(d)).

Routes associated with perennial channels (in, through, crossing, leads to/end at, proximate within 0.25 miles): Under Alternative B, of the 63 routes that are in or through or within 0.25 miles of perennial channels, 17 or 27% would be open to all types of motor vehicle use, with 2 routes (3.2%) open with vehicle restrictions. Additionally, 9 routes or 14% would be limited to administrative use only and 35 routes or 56% would be closed. With 70 percent of the routes designated closed or limited to administrative use only (as opposed to only 13 percent in alternative A) sediment production and potential noxious weed infestations would be minimized (43 CFR 8342.1(a)(d)).

Routes crossing or proximate to perennial channels in severe/moderate water erosion rated soils (in, through, within 300' of perennial): Of the 14 routes that are in, through or within 300' of perennial channels that are in severe or moderated water erosion rated soils, 5 routes with 2.8 miles (67%) would be open to all vehicle uses. Additionally, 4 routes with 0.4 miles (10%) would be limited to administrative use only and 5 routes with 1 mile (23%) would be closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes would be approximately 6.4 acres in these areas (21% fewer than Alternative A). The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 1.2 acres (15% more than Alternative A). With 33 percent of the route miles closed or limited to administrative access only (as opposed to zero percent in alternative A) impacts from sediment production and noxious weed infestation would be less than other alternatives (43 CFR 8342.1(a)(d)).

Routes in and through intermittent channels (within 10'): Of the 158 routes that are in or through or within 10' of intermittent channels, 33 routes with 27 miles (32%) would be open to use with 4 routes at 6.8 miles (8%) open with vehicle restrictions. Additionally, 46 routes with 17.6 miles (21%) would be limited to administrative use only and 75 routes with 32 miles (39%) would be closed. Having 50% of the route miles closed or limited to administrative use only (as compared to 23% in alternative A) would minimize impacts to water resources from sediment production and noxious weed infestation (43 CFR 8342.1(a)(d)).

Routes associated with intermittent channels (in, through, crossing, leads to/end at, proximate within 300'): Of the 642 routes that are in, through or within 300' of intermittent channels, 71 routes or 11% would be open to use, while 4 routes or 0.6% would be open with vehicle and 5 routes or 0.8% would be open with seasonal restrictions (for a total of 70% fewer than Alternative A). Additionally, 176 routes or 27% would be limited to administrative use only (22% more than Alternative A) and 386 routes or 60% would be closed (48% more than Alternative A). Having 87% of the routes closed or limited to administrative use only (as opposed to 17% in alternative A) would minimize impacts to water resources from sediment production and noxious weed infestation (43 CFR 8342.1(a)(d)).

O.6.2.3.4 Alternative C

See impacts from alternative B for general discussion pertaining to travel management impacts to water resources in action alternatives.

Alternative C has the least restrictions to road designations (fewer routes closed, limited by dates or vehicle type, or limited to administrative use only). Alternative C would have the most adverse impacts to water quality from the effects of erosion, sediment delivery to water sources and the spread of noxious weeds to areas that would impact water quality.

Routes in and through perennial channels (within 25'): Of the 5 routes that are within 25' of perennial channels, 5 routes with 1.1 miles (100%) would be open and zero routes would be closed or limited (as opposed to 73 percent in alternative B). (43 CFR 8342.1(a)(d)). Alternative C road designations would have the highest impact (similar to alternative A), with the most potential for sediment input to perennial channels and promoting noxious weed infestations that would impact water quality (43 CFR 8342.1(a)(d)).

Routes associated with perennial channels (in, through, crossing, leads to/end at, proximate within 0.25 miles): Under Alternative C, of the 63 routes that are in or through or within 0.25 miles of perennial channels, 60 or 95% would be open to all types of motor vehicle use, with 2 routes (3.2%) open with vehicle restrictions. Additionally, 1 route or 2% would be limited to administrative use only and no routes would be closed. Having 98% of existing routes open and only 2% limited to administrative use only, impacts from sediment input to perennial channels and potential noxious weed infestations would impact water quality more than other alternatives (43 CFR 8342.1(a)(d)).

Routes crossing or proximate to perennial channels in severe/moderate water erosion rated soils (in, through, within 300' of perennial): Of the 14 routes that are in, through or within 300' of perennial channels that are in severe or moderate water erosion rated soils, 14 routes with 4.2 miles (100%) would be open to all vehicle uses (same as Alternative A). The actual

footprint (area of surface disturbance) of open routes would be approximately 6.4 acres in these areas (same as Alternative A. The impacts for Alternative C would be the same as Alternative A.

Routes in and through intermittent channels (within 10’): Of the 158 routes that are in or through or within 10’ of intermittent channels, 130 routes with 64 miles (78%) would be open to use and 4 routes with 7.3 miles (9%) would be open with vehicle restrictions. Additionally, 20 routes with 10 miles (12%) would be limited to administrative use only and 4 routes with 0.8 miles (1%) would be closed. With about 87% of existing routes potentially open and about 13% potentially limited to administrative use only or closed to motor vehicle use (as opposed to 86 percent in alternative B), the impacts from sediment input to perennial channels and potential noxious weed infestations would be higher than alternatives B and D (43 CFR 8342.1(a)(d)).

Routes associated with intermittent channels (in, through, crossing, leads to/end at, proximate within 300’): Of the 642 routes that are in, through or within 300’ of intermittent channels, 546 routes or 85% would be open to use, while 6 routes or 1% would be open with vehicle and 5 routes and no routes would be open with seasonal restrictions. Additionally, 76 routes or 12% would be limited to administrative use only and 14 routes or 2% would be closed. Having about 86% of existing routes potentially open and about 14% potentially limited to administrative use only or closed to motor vehicle use, impacts from sediment input to perennial channels and potential noxious weed infestations would impact water quality more than alternatives B and D (43 CFR 8342.1(a)(d)).

O.6.2.3.5 Alternative D

See impacts from alternative B for general discussion pertaining to travel management impacts to water resources in action alternatives.

Alternative D has a moderate number of restrictions to road designations compared to other Alternatives. Alternative D would have a moderate level of impacts to water quality from the effects of erosion, sediment delivery to water sources and the spread of noxious weeds to areas that would impact water quality, compared to other alternatives.

Routes in and through perennial channels (within 25’): Of the 5 routes that are within 25’ of perennial channels, 2 routes with 0.3 miles (27%) would be open, while 3 routes with 0.8 miles (73%) would be limited to administrative use only and no routes would be closed. With only 27% of existing routes potentially open and 73% potentially limited to administrative use only, the impacts from sediment input to perennial channels and potential noxious weed infestations would affect water quality more than alternative B, but less than alternatives A and C (43 CFR 8342.1(a)(d)).

Routes associated with perennial channels (in, through, crossing, leads to/end at, proximate within 0.25 miles): Under Alternative D, of the 63 routes that are in or through or within 0.25 miles of perennial channels, 28 or 44% would be open to all types of motor vehicle use, with 2 routes (3.2%) open with vehicle restrictions (for a total of 40% fewer open routes than in Alternative A). Additionally, 32 routes or 51% would be limited to administrative use only (51% more than Alternative A) and 1 routes or 2% would be closed (11% fewer than Alternative A). With 48% of existing routes potentially open and only 52% potentially limited to administrative use only or closed to motor vehicle use, the impacts from sediment input to perennial channels

and potential noxious weed infestations would affect water quality more than alternative B, but less than alternatives A and C (43 CFR 8342.1(a)(d)).

Routes crossing or proximate to perennial channels in severe/moderate water erosion rated soils (in, through, within 300' of perennial): Of the 14 routes that are in, through or within 300' of perennial channels that are in severe or moderated water erosion rated soils, 7 routes with 3.1 miles (74%) would be open to all vehicle uses. Additionally, 7 routes with 1.1 miles (26%) would be limited to administrative use only and no routes would be closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes would be approximately 6.8 acres in these areas (16% fewer than Alternative A). With 74% of existing routes potentially open and 26% potentially limited to administrative use only, the impacts from sediment input to perennial channels and potential noxious weed infestations would impact water quality more than alternative B, but less than alternatives A and C (43 CFR 8342.1(a)(d)).

Routes in and through intermittent channels (within 10'): Of the 158 routes that are in or through or within 10' of intermittent channels, 85 routes with 47 miles (58%) would be open to use and 4 routes with 7.3 miles (9%) open with vehicle restrictions. Additionally, 52 routes with 20 miles (24%) would be limited to administrative use only and 17 routes with 7.3 miles (9%) would be closed. Having about 67 percent of existing routes potentially open and about 33 percent potentially limited to administrative use only or closed to motor vehicle use, impacts from sediment input to perennial channels and potential noxious weed infestations would impact water quality more than alternative B, but less than alternatives A and C (43 CFR 8342.1(a)(d)).

Routes associated with intermittent channels (in, through, crossing, leads to/end at, proximate within 300'): Of the 642 routes that are in, through or within 300' of intermittent channels, 272 routes or 42% would be open to use, while 5 routes or 0.8% would be open with vehicle and 9 routes or 1.4% would be open with seasonal restrictions (for a total of 38% fewer than Alternative A). Additionally, 306 routes or 48% would be limited to administrative use only (42% more than Alternative A) and 50 routes or 8% would be closed (4% more than Alternative A). With about 45% of existing routes potentially open and about 55% potentially limited to administrative use only or closed to motor vehicle use, impacts from sediment input to perennial channels and potential noxious weed infestations would impact water quality more than alternative B, but less than alternatives A and C (43 CFR 8342.1(a)(d)).

In summary, water resources would be adversely impacted more from Alternatives A and C. Alternative B would be the most protective to water resources and Alternative D would be more protective than Alternatives A and C, but less than Alternative B.

O.6.2.4 Forest and Woodlands

O.6.2.4.1 Alternative A

Under this Alternative, motorized vehicle travel would be confined to existing roads and trails, except for those specifically closed. The total number of miles of travel routes that specifically impact forested areas is not known.

Limiting motorized travel to existing roads and trails would ensure that forest and woodland areas with young seedlings would be protected from damage, growth deformity, and/or mortality. However, the lack of a formal travel management plan would allow duplicate and unneeded routes to remain open; thereby contributing to increased erosion and higher maintenance costs. These routes have negative impacts on forest resources; including, encouraging unauthorized forest products removal, the spread of invasive plants, and damaging or killing seedlings. However, existing routes provide access to forest resources and reduce the cost of forest treatments and harvest. Closure and decommissioning of roads that contribute to resource damage, or which are not needed, would afford greater protection for forest resources, but would increase costs and restrict or eliminate some forest management treatments. The negative impacts to resources from duplicate unmaintained routes outweigh the benefits of additional access to forest and woodland acres and lower cost of treatments.

O.6.2.4.2 Alternative B

The establishment of eleven Travel Management Areas (TMAs) would reduce the number of miles of open roads and trails and improve route monitoring and maintenance. The reduction of routes would reduce the negative impacts to forest resources as discussed in Alternative A, except for the possible reduction in access for potential harvest and forest treatments. The increased cost of constructing and decommissioning temporary routes needed for forest management activities would reduce the amount of acres treated over the life of the plan.

Reclamation of roads upon completion of projects, unless the route provides specific benefits for public access, would minimize detrimental impacts to forests and woodlands and provide the conditions required for rapid forest regeneration. This Alternative closes or limits the most routes and reduces access for forest treatments and harvest more than the other Alternatives. The current level of planning would limit access to areas such as Tin Can Hill and Mill Creek/Bundy, thereby increasing the costs of forest management treatments. Closures under this Alternative would restrict access and eliminate all but the most expensive hand treatments in portions of some areas such as Grove Creek.

O.6.2.4.3 Alternative C

The impacts to forest resources would be similar to Alternative A. Soil compaction, loss of infiltration capacity, erosion, and vegetation loss would be less than Alternative A, but more than Alternatives B and D due to the increase in routes open for public use.

O.6.2.4.4 Alternative D

Impacts to forest resources would be the same as described in Alternative A. This Alternative is a compromise between public use and resource protection needs.

O.6.2.5 Rangelands

O.6.2.5.1 Impacts Common to all Alternatives

Travel on roads/trails could increase disturbances to soils and vegetation; resulting in increased soil compaction, rutting, surface runoff, and subsequent erosion. The severity of disturbance would depend upon soil conditions (moist or wet vs. dry or frozen), frequency, vehicle weight

(lbs./sq. inch) and type, tire width or tread, and driver type. Effects would be greatest in areas of concentrated use that are not maintained or improved. Compaction and erosion could occur to the extent that natural revegetation fails and some sort of mechanical treatment would be required. Travel during wet soil conditions could lead to rutting and the creation of Alternative routes, parallel and/or braided roads/trails. Ruts can provide a channel for concentrated flow to accelerate soil erosion.

BLM roads/trails that are properly designed, graded, and maintained would provide for improved road/trail conditions. This could result in decreased soil disturbances associated with creation of parallel or braided roads/trails and associated runoff and subsequent erosion. Roads/trails with poor design and improper maintenance would be the most susceptible to erosion due to runoff, compacted surfaces, and lack of vegetative cover. Typically, poorly designed and improperly maintained roads are incised and channel water, leading to erosion within the road and vegetative loss adjacent to the road. Appropriate design standards and features that minimize surface runoff and subsequent soil erosion and subsequent vegetative loss would be required for new roads/trails.

Limiting road density per square mile could cause road closures in some locations of the planning area. The primary negative effects of high road density are habitat fragmentation/degradation and disturbance/disruption to wildlife and grazing animals.

Common road closure techniques include (but are not limited to) the following:

- Signage that indicates the road is closed and being allowed to naturally revegetate.
- Rubble and debris piles at road entrance points.
- Physical barriers, such as gates and tank traps.
- Mechanical ripping and obliteration of the road surface, followed by reseeding.

O.6.2.5.2 Alternative A

Under Alternative A, travel is restricted to "existing roads and trails". Allowing OHV travel off existing roads and vehicular routes to retrieve big game kills and to access primitive campsites would increase disturbance from OHVs and trampling by humans, increasing vegetation damage in these localized areas. Rangeland management and monitoring sites, areas or sites of seeding, predator control, vegetation treatment, fuels management, monitoring or exclosures are typically accessed by motorized vehicle along existing routes. Total closure of routes to or near these areas or sites could have a detrimental effect on the ability of the agency personnel to access them to conduct research, treatments, reclamation or other related activities.

With regard to the 259 routes that are associated with rangeland management or monitoring areas or sites under the No Action Alternative, 237 routes (446 miles) or about 92% would continue to be managed as open/open with restrictions or limited to administrative use only. Although Alternative A carries forward 22 route closures, over 8% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of agency personnel to access these

sites would be negligible, due to the continued availability of over 9 out of every 10 existing BLM routes for these activities.

Routes that are proposed for closure would either be allowed to reclaim vegetative cover naturally over time or would receive some degree of mechanical reclamation following closure. In either case, the route acreage returned to a more natural condition would potentially change overall upland health associated with such routes.

Under the No Action Alternative, no routes would be slated for active, mechanical reclamation. However, 81 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 120 acres.

O.6.2.5.3 Alternative B

Of the 259 routes that are associated with rangeland management or monitoring areas or sites under Alternative B, 142 routes (385 miles) or about 55% would continue to be managed as open/open with restrictions or limited to administrative use only (36% fewer than in Alternative A). Because Alternative B would close 117 routes, or over 45% of routes associated with these sites, the direct, long-term effect of these closed routes on the ability of agency personnel to access livestock grazing facilities would be moderate to major, due to the availability of over 5 out of every 10 existing BLM routes for these activities.

Under Alternative B, no routes would be slated for active, mechanical reclamation (same as Alternative A). However, 458 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 404 acres, 285 more acres than Alternative A.

O.6.2.5.4 Alternative C

Of the 259 routes that are associated with rangeland management or monitoring areas or sites under Alternative C, 247 routes (494 miles) or over 95% would continue to be managed as open/open with restrictions or limited to administrative use only (4% more than in Alternative A). Because Alternative C would close just 12 routes, at 5% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of agency personnel to access these sites would be negligible, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Under Alternative C, no routes would be slated for active, mechanical reclamation (same as Alternative A). However, 18 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 6 acres, 63 fewer acres than Alternative A.

O.6.2.5.5 Alternative D

Of the 259 routes that are associated with rangeland management or monitoring areas or sites under Alternative D, 247 routes (523 miles) or about 95% would continue to be managed as open/open with restrictions or limited to administrative use only. Because Alternative D would close 14 routes, or about 5% of routes associated with these sites, the direct, long-term effect of

these closed routes on the ability of agency personnel to access most sites would be negligible, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Under Alternative D, no routes would be slated for active, mechanical reclamation (same as Alternative A). However, 66 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 73 acres, 47 fewer acres than Alternative A.

O.6.2.6 Riparian and Wetlands Resources

O.6.2.6.1 Impacts Common to All Alternatives

The primary impact issues to riparian resources from other management programs in the Planning Area include loss or alteration of riparian communities and/or corridors, ground disturbance, increased invasion of noxious weeds and other non-native species, decreased water availability, increased fragmentation, and detrimental changes to riparian function—all of which can prevent or retard riparian communities from “maturing” toward the appropriate climax community for the specific site. Surface disturbing actions that alter riparian characteristics (e.g. vegetative structures and composition, water quantity, water quality, erosion potential) also have the potential to affect riparian health.

Inasmuch as the use of motor vehicles on public routes that lead to or are proximate to, or are in and through riparian areas constitutes a primary activity that has the potential to adversely affect riparian characteristics and, in turn, proper riparian function. Relative to travel management, this can occur by improper placement of routes; inappropriate behavior by visitors in these areas; or unauthorized off-road vehicle use. Therefore, the supply and spatial extent of travel access networks for motor vehicles is an important component for managing or providing various levels of protection for these areas.

O.6.2.6.2 Alternative A

Motorized and mechanized modes of travel on BLM-administered land would be limited to existing roads and trails. Site specific travel planning would be initiated if resources were impacted (not meeting Land Health Standards, excessive erosion). In all Alternatives, the BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. Prohibiting off road travel reduces erosion and protects water quality and riparian resources.

The following analysis was completed to determine the potential impacts of the spread of noxious, invasive plant species to riparian areas and surrounding uplands as well as impacts from erosion caused by altered drainage patterns. The real impacts are unknown, however, varying degrees of proximity were analyzed to aid in future monitoring efforts and management action to preserve or enhance riparian habitat.

Routes in/through Riparian Areas: Under the No Action Alternative, of the 24 routes that are in or through riparian areas, 21 or 88% would be open to all types of motor vehicle use, while no routes would be limited to administrative use only and 3 routes or 12% would be closed. In the long-term, almost 9 out of every 10 existing BLM routes in or through riparian areas would remain available for public access in the No Action Alternative. With 88% of existing routes

potentially open and only 12% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

This results in a higher level of impact, primarily from the potential spread of noxious, invasive plant species to the riparian area and surrounding uplands, which degrades riparian function.

Of the 10 routes that are in, through or cross riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 10 or 100% would be open to all types of motor vehicle use, while no routes would be limited to administrative use only or closed. In the long-term, 10 out of every 10 existing BLM routes in or through riparian areas with these soils would remain available for public access in the No Action Alternative. With 100% of existing routes potentially open and no routes limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)). This results in a higher level of impact, primarily from the potential spread of noxious, invasive plant species to the riparian area and surrounding uplands and potential off route travel that increases erosion from surface disturbance.

Routes within 300' of Riparian Areas: Of the 35 routes that are within 300' of riparian areas, 29 or 83% would be open, while no routes would be limited to administrative use only and 6 routes or 17% would be closed. In the long-term, just over 8 out of every 10 existing BLM routes within 300' of riparian areas would remain available for public access in the No Action Alternative. With 83% of existing routes potentially open and 17% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Of the 23 routes that are within 300' of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 19 or 83% would be open to all types of motor vehicle use, while no routes would be limited to administrative use only and 4 routes or 17% would be closed. In the long-term, just over 8 out of every 10 existing BLM routes within 300' of riparian areas in these soil types would remain available for public access in the No Action Alternative.

With 87% of existing routes potentially open and 17% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Routes within 0.25 miles of Riparian Areas: Of the 21 routes that are within 0.25 miles of riparian areas, 14 or 66.5% would be open to use (with 2 of the routes or 9.5% open with seasonal restrictions), while 5 routes or 24% would be limited to administrative use only and 2 routes or 9.5% would be closed. In the long-term, 6.5 out of every 10 existing BLM routes within 0.25 miles of riparian areas would remain available for public access in the No Action Alternative. With about 67% of existing routes potentially open and about 33% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect

of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Of the 12 routes that are within 0.25 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 8 or 67% would be open to all types of motor vehicle use (with 1 of the routes or 8% open with seasonal restrictions), while 4 routes or 33% would be limited to administrative use only and no routes would be closed. In the long-term, 6.7 out of every 10 existing BLM routes within 0.25 miles of riparian areas in these soil types would remain available for public access in the No Action Alternative. With 67% of existing routes potentially open and 33% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Routes within 0.5 miles of Riparian Areas: Of the 19 routes that are within 0.5 miles of riparian areas, 12 or 63% would be open to use (with 1 of the routes or 5% open with seasonal restrictions), while 1 route or 5% would be limited to administrative use only and 6 routes or 32% would be closed. In the long-term, over 6 out of every 10 existing BLM routes within 0.5 miles of riparian areas would remain available for public access in the No Action Alternative. With about 63% of existing routes potentially open and about 37% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Of the 5 routes that are within 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 3 or 60% would be open to all types of motor vehicle use (with 1 of the routes or 20% open with seasonal restrictions), while no routes would be limited to administrative use only and 2 routes or 40% would be closed. In the long-term, 6 out of every 10 existing BLM routes within 0.5 miles of riparian areas in these soil types would remain available for public access in the No Action Alternative. With 60% of existing routes potentially open and 40% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

In general, Alternative A and C allow for more potential impacts to riparian resources than Alternatives B and D. Alternatives A and C leave many routes open for motorized travel without regard to the routes potential impact to various resources, including riparian.

O.6.2.6.3 Alternative B

In action Alternatives the BLM established 11 Travel Management Areas (TMAs) to minimize impacts and provide a spectrum of motorized and non-motorized recreational opportunities. In each TMA motorized travel routes are designated open, close or open with restrictions by resource issues analyzed in travel planning. Outside of the TMAs, motorized and mechanized travel would be limited to designated roads and trails as established in the 2001 OHV EIS. These routes have negligible impacts on riparian resources. Riparian areas are monitored for PFC on a regular basis and resource issues, primarily erosion/run-off and noxious invasive species spread,

would be managed on a case by case basis as they are identified. In this Alternative, riparian areas would be prioritized, by resource concerns, and treated to improve riparian conditions. An implementation and monitoring plan would be initiated for the TMAs within 3-5 years of the ROD. The plan would include signing, mapping, information and education, and monitoring of impacts associated with continued use on designated open routes, etc. The implementation plan would also identify criteria for route variances specific to each TMA. In this plan, the BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. The travel plan would also allow for, upon project completion, roads used for commercial or administrative access on BLM-administered lands would be reclaimed, unless the route provides specific benefits for public access, minimizes impacts to the resource and would be considered on a case-by-case basis.

The following analysis was completed to determine the potential impacts of the spread of noxious, invasive plant species to riparian areas and surrounding uplands as well as impacts from erosion caused by altered drainage patterns. The real impacts are unknown, however, varying degrees of proximity were analyzed to aid in future monitoring efforts and management action to preserve or enhance riparian habitat.

Routes in/through Riparian Areas: Under Alternative B, of the 24 routes that are in or through riparian areas, 6 or 25% would be open to all types of motor vehicle use (almost 63% fewer than in Alternative A), while 6 routes or 25% would be limited to administrative use only (25% more than in Alternative A) and 12 routes or 50% would be closed (38% more than in Alternative A). In the long-term, over 2 out of every 10 existing BLM routes in or through riparian areas would remain available for public access in Alternative B. With 25% of existing routes potentially open and 75% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)). Mainly, the potential of erosion issues and spread of noxious invasive plant species would be significantly reduced in this level of management.

Of the 10 routes that are in, through or cross riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 6 or 60% would be open to all types of motor vehicle use (40% fewer than in Alternative A), while 3 routes or 30% would be limited to administrative use only (30% more than in Alternative A) and 1 route or 10% would be closed (10% more than in Alternative A). In the long-term, 6 out of every 10 existing BLM routes in or through riparian areas with these soils would remain available for public access in Alternative B. With 60% of existing routes potentially open and 40% limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)). Spread of noxious invasive plant species and erosion issues would be decreased in this Alternative compared to all other Alternatives.

Routes within 300' of Riparian Areas: Of the 35 routes that are within 300' of riparian areas, 6 or 17% would be open, 1 route or 3% would be open with vehicle restrictions (a total of 63% fewer open routes than in Alternative A). Additionally, 7 routes or 20% would be limited to administrative use only (20% more than in Alternative A) and 21 routes or 60% would be closed (43% more than in Alternative A). In the long-term, 2 out of every 10 existing BLM routes

within 300' of riparian areas would remain available for public access in Alternative B. With 20% of existing routes potentially open and 80% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)). This action would minimize impacts from invasive plant species spread and erosion issues that may arise from open route designations.

Of the 23 routes that are within 300' of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 4 or 18% would be open, 1 route or 4% would be open with vehicle restrictions (a total of 61% fewer open routes than in Alternative A). Additionally, 4 routes or 17% would be limited to administrative use only (17% more than in Alternative A) and 14 routes or 61% would be closed (44% more than in Alternative A). In the long-term, just over 2 out of every 10 existing BLM routes within 300' of riparian areas in these soil types would remain available for public access in Alternative B. With 22% of existing routes potentially open and 78% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)). The primary benefit to riparian areas would be the reduced potential for erosion associated with open routes and lower potential spread of invasive noxious plant species.

Routes within 0.25 miles of Riparian Areas: Of the 21 routes that are within 0.25 miles of riparian areas, 5 or 24% would be open to use, 1 route or 5% would be open with seasonal restrictions (a total of 38% fewer open routes than in Alternative A). Additionally, 2 routes or 10% would be limited to administrative use only (14% fewer than in Alternative A) and 13 routes or 62% would be closed (52% more than in Alternative A). In the long-term, almost 3 out of every 10 existing BLM routes within 0.25 miles of riparian areas would remain available for public access in Alternative B. With about 29% of existing routes potentially open and about 71% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate (43 CFR 8342.1(a)(b)(d)).

Of the 12 routes that are within 0.25 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 5 or 42% would be open, 1 route or 8% would be open with seasonal restrictions (a total of 17% fewer open routes than in Alternative A). Additionally, 1 route or 8% would be limited to administrative use only (25% fewer than in Alternative A) and 5 routes or 42% would be closed (42% more than in Alternative A). In the long-term, 5 out of every 10 existing BLM routes within 0.25 miles of riparian areas in these soil types would remain available for public access in Alternative B. With 50% of existing routes potentially open and 50% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Routes within 0.5 miles of Riparian Areas: Of the 19 routes that are within 0.5 miles of riparian areas, 1 or 5% would be open, with no routes open with restrictions (a total of 58% fewer open routes than in Alternative A). Additionally, 4 route or 21% would be limited to administrative use only (16% more than in Alternative A) and 14 routes or 74% would be closed

(42% more than in Alternative A). In the long-term, less than 1 out of every 10 existing BLM routes within 0.5 miles of riparian areas would remain available for public access in Alternative B. With about 5% of existing routes potentially open and about 95% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)).

Of the 5 routes that are within 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, no routes would be open/open with seasonal restrictions (60% fewer than in Alternative A), no routes would be limited to administrative use only and all 5 routes or 100% would be closed (60% more than in Alternative A). In the long-term, 0 out of every 10 existing BLM routes within 0.5 miles of riparian areas in these soil types would remain available for public access in Alternative B. With no routes potentially open and 100% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)).

Routes in/through and within 300'/.25/.5 miles of Riparian Areas: Of the 97 routes that are in or through or within 300', 0.25 or 0.5 miles of riparian areas, 18 or 19% would be open, 1 route or 1% would be open with seasonal restrictions, and 1 route or 1% would be open with vehicle restrictions (for a total of 56% fewer open routes than in Alternative A). Additionally, 16 routes or 17% would be limited to administrative use only (10% more than in Alternative A) and 61 routes or 63% would be closed (45% more than in Alternative A). In the long-term, just over 2 out of every 10 existing BLM routes in or through or within 300', 0.25 or 0.5 miles of riparian areas would remain available for public access in Alternative B. With about 21% of existing routes potentially open and about 79% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)).

Of the 50 routes that are in or through or within 300', 0.25 or 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 15 or 30% would be open, 1 route or 2% would be open with seasonal restrictions, and 1 route or 2% would be open with vehicle restrictions (for a total of 46% fewer open routes than in Alternative A). Additionally, 8 routes or 16% would be limited to administrative use only (8% more than in Alternative A) and 25 routes or 50% would be closed (38% more than in Alternative A). In the long-term, over 3 out of every 10 existing BLM routes in or through or within 300', 0.25 or 0.5 miles of riparian areas in these soil types would remain available for public access in Alternative B. With 34% of existing routes potentially open and only 66% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate to major (43 CFR 8342.1(a)(b)(d)).

Alternative B manages travel activities to protect natural resources, including riparian resources, more than any other Alternative.

0.6.2.6.4 Alternative C

In the analyses below for route designations in TMAs, Alternative C shows the most potential to impact riparian areas, primarily by the spread of noxious invasive plant species, increased sediment loading from erosion and un-natural drainage patterns, and direct impacts from habitat altering erosion. The more roads open in, through or in various proximities up to ½ mile from riparian areas increase the potential spread of noxious invasive plant species and potential erosion and sediment issues. The spread of noxious weeds can be detrimental to riparian functionality, reducing native plant diversity, abundance and vigor in some cases. This impact promotes erosion and changes in riparian wildlife and fish habitat, lowering the functional status of the riparian area.

Routes in/through Riparian Areas: Under Alternative C, of the 24 routes that are in or through riparian areas, 22 or 92% would be open to all types of motor vehicle use (4% more than in Alternative A), while 2 routes or 8% would be limited to administrative use only (8% more than in Alternative A) and no routes would be closed (13% fewer than in Alternative A). In the long-term, over 9 out of every 10 existing BLM routes in or through riparian areas would remain available for public access in Alternative C. With 92% of existing routes potentially open and only 8% potentially limited to administrative use only, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Of the 10 routes that are in, through or cross riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 10 or 100% would be open to all types of motor vehicle use (same as Alternative A) and no route would be limited to administrative use only or closed. The impacts would be the same as Alternative A.

Routes within 300' of Riparian Areas: Of the 35 routes that are within 300' of riparian areas, 33 or 94% would be open (11% more than in Alternative A), while 2 routes or 6% would be limited to administrative use only (6% more than in Alternative A) and no routes would be closed (17% fewer than in Alternative A). In the long-term, over 9 out of every 10 existing BLM routes within 300' of riparian areas would remain available for public access in Alternative C.

With 94% of existing routes potentially open and only 6% potentially limited to administrative use only, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Of the 23 routes that are within 300' of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 22 or 96% would be open (13% more than in Alternative A), while 1 route or 4% would be limited to administrative use only (4% more than in Alternative A) and no routes would be closed (17% fewer than in Alternative A). In the long-term, over 9 out of every 10 existing BLM routes within 300' of riparian areas in these soil types would remain available for public access in Alternative C. With 96% of existing routes potentially open and only 4% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public

motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Routes within 0.25 miles of Riparian Areas: Of the 21 routes that are within 0.25 miles of riparian areas, 20 or 95% would be open to use, with no routes open with seasonal restrictions (for a total of 28% more open routes than in Alternative A). Additionally, 1 route or 5% would be limited to administrative use only (19% fewer than in Alternative A) and no routes would be closed (10% more than in Alternative A). In the long-term, over 9 out of every 10 existing BLM routes within 0.25 miles of riparian areas would remain available for public access in Alternative C. With 95% of existing routes potentially open and only 5% potentially limited to administrative use only, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Of the 12 routes that are within 0.25 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, all 12 or 100% would be open, with no routes open with seasonal restrictions (for a total of 33% fewer open routes than in Alternative A). No routes would be limited to administrative use only (33% fewer than in Alternative A) and no routes would be closed (same as Alternative A). In the long-term, 10 out of every 10 existing BLM routes within 0.25 miles of riparian areas in these soil types would remain available for public access in Alternative C. With 100% of existing routes potentially open and 0% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Routes within 0.5 miles of Riparian Areas: Of the 19 routes that are within 0.5 miles of riparian areas, 17 or 90% would be open, with no routes open with restrictions (a total of 26% fewer open routes than in Alternative A). Additionally, 2 routes or 10% would be limited to administrative use only (5% more than in Alternative A) and no routes would be closed (32% fewer than in Alternative A). In the long-term, 9 out of every 10 existing BLM routes within 0.5 miles of riparian areas would remain available for public access in Alternative C. With 90% of existing routes potentially open and 10% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Of the 5 routes that are within 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 5 routes 100% would be open, with no open with seasonal restrictions (for a total of 40% more than in Alternative A). No routes would be limited to administrative use only or closed (40% fewer than in Alternative A). In the long-term, 10 out of every 10 existing BLM routes within 0.5 miles of riparian areas in these soil types would remain available for public access in Alternative C. With 100% potentially open and no routes potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Routes in/through and within 300'/.25/.5 miles of Riparian Areas: Of the 97 routes that are in or through or within 300', 0.25 or 0.5 miles of riparian areas, 90 or 93% would be open, with no routes open with seasonal restrictions (for a total of 17% more open routes than in Alternative A). Additionally, 7 routes or 7% would be limited to administrative use only (1% more than in Alternative A) and no routes would be closed (18% fewer than in Alternative A). In the long-term, just over 9 out of every 10 existing BLM routes in or through or within 300', 0.25 or 0.5 miles of riparian areas would remain available for public access in Alternative C. With 93% of existing routes potentially open and about 7% potentially limited to administrative use only, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

Of the 50 routes that are in or through or within 300', 0.25 or 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 49 or 98% would be open, with no routes open with seasonal restrictions (for a total of 18% more open routes than in Alternative A). Additionally, 1 route or 2% would be limited to administrative use only (6% fewer than in Alternative A) and no routes would be closed (12% fewer than in Alternative A). In the long-term, almost 10 out of every 10 existing BLM routes in or through or within 300', 0.25 or 0.5 miles of riparian areas in these soil types would remain available for public access in Alternative C. With 98% of existing routes potentially open and only 2% potentially limited to administrative use only, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be negligible (43 CFR 8342.1(a)(b)(d)).

O.6.2.6.5 Alternative D

Impacts from Alternative D would be similar to impacts from Alternative B.

In all analyses below for route designations in TMAs, Alternative D has a moderate impact compared to Alternatives B (the least impact) and C (the highest impact), to riparian areas; primarily the spread of noxious invasive plant species, increased sediment loading from erosion and un-natural drainage patterns, and direct impacts from habitat altering erosion. The more roads open in, through or in various proximities up to ½ mile from riparian areas increase the potential spread of noxious invasive plant species and potential erosion and sediment issues. The spread of noxious weeds can be detrimental to riparian functionality, reducing native plant diversity, abundance and vigor in some cases. This impact promotes erosion and changes in riparian wildlife and fish habitat, lowering the functional status of the riparian area.

Routes in/through Riparian Areas: Under Alternative D, of the 24 routes that are in or through riparian areas, 12 or 50% would be open to all types of motor vehicle use (almost 38% fewer than in Alternative A), while 10 routes or 42% would be limited to administrative use only (42% more than in Alternative A) and 2 routes or 8% would be closed (4% fewer than in Alternative A). In the long-term, 5 out of every 10 existing BLM routes in or through riparian areas would remain available for public access in Alternative D. With 50% of existing routes potentially open and 50% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its

potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Of the 10 routes that are in, through or cross riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 7 or 70% would be open to all types of motor vehicle use (30% fewer than in Alternative A), while 3 routes or 30% would be limited to administrative use only (30% more than in Alternative A) and no routes would be closed (same as Alternative A). In the long-term, 7 out of every 10 existing BLM routes in or through riparian areas with these soils would remain available for public access in Alternative D. With 70% of existing routes potentially open and 30% limited to administrative use only, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Routes within 300' of Riparian Areas: Of the 35 routes that are within 300' of riparian areas, 11 or 32% would be open to all vehicle uses (51% fewer open routes than in Alternative A). Additionally, 19 routes or 54% would be limited to administrative use only (54% more than in Alternative A) and 5 routes or 14% would be closed (3% fewer than in Alternative A). In the long-term, just over 3 out of every 10 existing BLM routes within 300' of riparian areas would remain available for public access in Alternative D. With 32% of existing routes potentially open and 68% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate (43 CFR 8342.1(a)(b)(d)).

Of the 23 routes that are within 300' of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 8 or 35% would be open (48% fewer open routes than in Alternative A). Additionally, 11 routes or 48% would be limited to administrative use only (48% more than in Alternative A) and 4 routes or 17% would be closed (same as Alternative A). In the long-term, over 3 out of every 10 existing BLM routes within 300' of riparian areas in these soil types would remain available for public access in Alternative D. With 35% of existing routes potentially open and 65% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate (43 CFR 8342.1(a)(b)(d)).

Routes within 0.25 miles of Riparian Areas: Of the 21 routes that are within 0.25 miles of riparian areas, 5 or 24% would be open to use, 4 routes or 19% would be open with seasonal restrictions (a total of 24% fewer open routes than in Alternative A). Additionally, 6 routes or 29% would be limited to administrative use only (5% more than in Alternative A) and 6 routes or 29% would be closed (19% more than in Alternative A). In the long-term, just over 4 out of every 10 existing BLM routes within 0.25 miles of riparian areas would remain available for public access in Alternative D. With 43% of existing routes potentially open and about 57% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor to moderate (43 CFR 8342.1(a)(b)(d)).

Of the 12 routes that are within 0.25 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 5 or 42% would be open (17% fewer than in Alternative A), 3 route or 25% would be open with seasonal restrictions (17% more than in Alternative A). Additionally, 2 route or 17% would be limited to administrative use only (17% fewer than in Alternative A) and 2 routes or 17% would be closed (17% more than in Alternative A). In the long-term, over 6 out of every 10 existing BLM routes within 0.25 miles of riparian areas in these soil types would remain available for public access in Alternative D. With 67% of existing routes potentially open and 33% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be minor (43 CFR 8342.1(a)(b)(d)).

Routes within 0.5 miles of Riparian Areas: Of the 19 routes that are within 0.5 miles of riparian areas, 5 or 26% would be open, with 1 route or 5% open with seasonal restrictions (for a total of 32% fewer open routes than in Alternative A). Additionally, 12 routes or 63% would be limited to administrative use only (58% more than in Alternative A) and 1 routes or 5% would be closed (26% fewer than in Alternative A). In the long-term, just over 3 out of every 10 existing BLM routes within 0.5 miles of riparian areas would remain available for public access in Alternative D. With about 32% of existing routes potentially open and about 68% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate (43 CFR 8342.1(a)(b)(d)).

Of the 5 routes that are within 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, no routes would be open to all vehicle uses (40% fewer than in Alternative A), however, 1 route or 20% would be open with seasonal restrictions (same as Alternative A), 3 routes or 60% would be limited to administrative use only and 1 route or 20% would be closed (20% fewer than in Alternative A). In the long-term, 2 out of every 10 existing BLM routes within 0.5 miles of riparian areas in these soil types would remain available for public access in Alternative D. With 20% routes potentially open and 80% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be major (43 CFR 8342.1(a)(b)(d)).

Routes in/through and within 300', 0.25 or 0.5 miles of Riparian Areas: Of the 97 routes that are in or through or within 300', 0.25 or 0.5 miles of riparian areas, 33 or 34% would be open, 5 routes or 5% would be open with seasonal restrictions (for a total of 37% fewer open routes than in Alternative A). Additionally, 45 routes or 46% would be limited to administrative use only (40% more than in Alternative A) and 14 routes or 14% would be closed (3% fewer than in Alternative A). In the long-term, almost 4 out of every 10 existing BLM routes in or through or within 300', 0.25 or 0.5 miles of riparian areas would remain available for public access in Alternative D. With about 39% of existing routes potentially open and about 61% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate (43 CFR 8342.1(a)(b)(d)).

Of the 50 routes that are in or through or within 300', 0.25 or 0.5 miles of riparian areas that are also in soils with severe or moderate water erosion hazard ratings, 20 or 40% would be open, 4 routes or 8% would be open with seasonal restrictions (for a total of 32% fewer open routes than in Alternative A). Additionally, 19 routes or 38% would be limited to administrative use only (30% more than in Alternative A) and 7 routes or 14% would be closed (2% more than in Alternative A). In the long-term, almost 5 out of every 10 existing BLM routes in or through or within 300', 0.25 or 0.5 miles of riparian areas in these soil types would remain available for public access in Alternative D. With 48% of existing routes potentially open and only 52% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to riparian values would be moderate to minor to moderate (43 CFR 8342.1(a)(b)(d)).

O.6.2.7 Invasive Species and Noxious Weeds

O.6.2.7.1 Alternative A

General: Inasmuch as the use of motor vehicles on public routes constitutes a primary source for the spread of noxious weed seeds and the establishment of new outbreaks and infestations of noxious weeds, the supply and spatial extent of travel access networks for motor vehicles is an important component for managing or providing some level of control in noxious weeds. Under the No Action Alternative, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions, limited to administrative use only (6%), or closed (10%). The overwhelming majority of routes (about 84%) would be open to all motorized uses or open with special seasonal or vehicular restrictions. In the long-term, over 8 out of every 10 existing BLM routes would remain available for access to the TMAs with an average route density of 1.5 open routes per square mile at 1.7 miles per square mile.

Therefore, Alternative A would continue to provide a moderate to high degree of motor vehicle access opportunities, which could perpetuate the potential for a moderate, long-term, indirect spread of noxious weeds on a localized basis. The potential for the spread of noxious weeds would be even greater in the Mill Creek/Bundy TMA, which has the highest density of open routes at 2.5 routes per square mile and the Shepherd TMA, which has a high of 8.9 miles per square mile of open routes. Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may increase to a minor, short-term extent on a localized basis as these new routes potentially become available for and help spread out public use; such effects would ebb and flow with energy development.

Although Alternative A carries forward closures and restrictions to administrative use only on 143 routes (170 miles) or 16% of the routes, the long-term, direct, localized effect of these restricted routes on reducing the potential for spreading noxious weeds by motor vehicle use is minor.

Noxious Weeds in Riparian Areas: With regard to riparian areas, where noxious weed outbreaks have the potential over time to outcompete and replace native vegetative species, the number of open routes that are in, through or cross these areas, as well as routes that are proximate to riparian zones all have the potential to spread noxious weeds. Under the No Action

Alternative, of the 24 routes that are in, through or cross riparian areas, 21 or 88% would be open to all types of motor vehicle use. Of the 35 routes that are within 300' of riparian areas, 29 or 83% would be open. These existing conditions would continue to provide a moderate to high degree of motor vehicle access opportunities to riparian areas, which could perpetuate the potential for a moderate, long-term, indirect spread of noxious weeds in such areas. However, of the 21 routes that are within 0.25 miles of riparian areas, only 14 or 67% would be open to use. This would reduce, to a minor degree, the potential for long-term, indirect spread of noxious weeds in near riparian areas.

Noxious Weeds Inventory and Treatment Areas: In assessing travel routes that are associated with inventoried weed areas, of the 101 routes (166 miles) that are in or through these areas, 78 routes (136 miles) or 77% would be open to all motorized vehicles. This represents a moderate potential for the direct, long-term spread of noxious weed species from known infestation sites to other non-infested areas.

Regarding motor vehicle routes available for noxious weed management actions, of the 527 routes (659 miles) that are in or through weed management areas, 426 routes (527 miles) or 80% are open to all motor vehicle uses and 17 routes (26 miles) or 3% are limited to administrative uses only. This represents a continuation of a major, widespread management condition that would be conducive to the long-term, direct control of noxious weeds.

0.6.2.7.2 Alternative B

General: Under Alternative B, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions (10%), limited to administrative use only, or closed. At 562, the majority of routes (64% of overall network) would be recommended for closure to all motorized modes of travel and 223 routes (25% of overall network) would be recommended for administrative use only. This would result in 54% more closed routes in Alternative B than already exist in Alternative A and in 19% more routes designated for administrative use only in Alternative B than exist in Alternative A.

Additionally, the actual miles of routes closed under Alternative B would be 397 or about 40% and those limited to administrative use would be 247 or about 25% of the existing mileage. This would result in 29% more miles of routes closed in Alternative B than the current 11% closure mileage in Alternative A. Additionally, there would be 19% more mileage of routes identified for administrative use only in Alternative B than the current 6% mileage in Alternative A. So, while the actual number of routes recommended for closure changes greatly--54% more in Alternative B than in Alternative A--the actual number of miles of closed routes changes only moderately --29% more in Alternative B than in Alternative A--for an overall minor to moderate reduction of motorized public access. This would result in a moderate reduction of the potential for the long-term, direct, spread of noxious weeds on a localized basis, contributing to minimizing damage to vegetation and watersheds (43 CFR 8342.1(a)).

The potential for the spread of noxious weeds in the Mill Creek/Bundy TMA would be greatly diminished by a 93% reduction in route density from the Alternative A high of 2.5 to 0.2 open routes per square mile the Alternative B. Similarly, the potential for spreading noxious weeds in

the Shepherd TMA would be diminished to a minor degree by a 19% reduction in route density from the Alternative A high of 8.9 to 7.2 miles per square mile of open routes in Alternative B.

In reducing the supply to 90 open routes (347 miles) or 10% of the overall network, the long-term, direct, localized threat of these open routes spreading noxious weeds by motor vehicle use is minor.

Noxious Weeds in Riparian Areas: Under Alternative B, of the 24 routes that are in, through or cross riparian areas, 6 or 25% would be open to all types of motor vehicle use, resulting in 63% fewer open routes than exist in Alternative A. Of the 35 routes that are within 300' of riparian areas, 7 or 20% would be open in Alternative B; 63% fewer than those open in Alternative A. Finally, of the 21 routes that are within 0.25 miles of riparian areas, only 6 or 29% would be open under Alternative B; 38% fewer than those open in Alternative A. The potential route designations of Alternative B would greatly reduce opportunities for motor vehicle access to riparian areas, which could moderately reduce the potential for long-term, indirect spread of noxious weeds in such areas, contributing to minimizing damage to vegetation and watersheds and disruption of wildlife habitats associated with riparian areas (43 CFR 8342.1(a),(b)).

Noxious Weeds Inventory and Treatment Areas: Under Alternative B, of the 101 routes (166 miles) that are in or through inventoried weed areas, 19 routes (91 miles) or 19% would be open to all motorized vehicles or open with restrictions; 58% fewer open routes in these areas than would be open in Alternative A. This represents a direct, long-term, moderate reduction in the potential for the spread of noxious weed species from known infestation sites to other non-infested areas.

Regarding motor vehicle routes available for noxious weed management actions, of the 527 routes (659 miles) that are in or through weed management areas, under Alternative B, 64 routes (251 miles) or 12% are open or open with restrictions; 69% fewer open routes than in Alternative A. Similarly, 101 routes (123 miles) or 19% are limited to administrative uses only; 16% more administrative routes than are in Alternative A. This represents a moderate to major reduction of motorized access potentially needed for the long-term, direct control of noxious weeds.

O.6.2.7.3 Alternative C

General: Under Alternative C, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions (84%), limited to administrative use only, or closed. At 22, few routes (3% of overall network) would be recommended for closure to all motorized modes of travel and 120 routes (14% of overall network) would be recommended for administrative use only. This would result in 8% fewer closed routes in Alternative C than already exist in Alternative A and in 8% more routes designated for administrative use only in Alternative C than exist in Alternative A.

Additionally, the actual miles of routes closed under Alternative C would be 6 or about 1% and those limited to administrative use would be 91 or about 9% of the existing mileage. This would result in 10% fewer miles of route miles closed in Alternative C than the current 11% closure mileage in Alternative A. Additionally, there would be 3% more route miles identified for administrative use only in Alternative C than the current 6% mileage in Alternative A. Though the number of open route miles is virtually the same for Alternative A and Alternative C, the 896

miles of open routes in Alternative C represents 7% more open route miles than in Alternative A. The potential route designations of Alternative C would result in a minor increase in access opportunities for motorized public access. This could result in a minor increase in the potential for the long-term, direct, spread of noxious weeds on a localized basis, contributing to minimizing damage to vegetation and watersheds (43 CFR 8342.1(a)).

The potential for the spread of noxious weeds in the Mill Creek/Bundy TMA would be moderately diminished by a 27% reduction in route density from the Alternative A high of 2.5 to 1.9 open routes per square mile the Alternative C. Similarly, the potential for spreading noxious weeds in the Shepherd TMA would be slightly diminished by a 7% reduction in route density from the Alternative A high of 8.9 to 8.3 miles per square mile of open routes in Alternative C.

Alternative C proposes 735 open routes (896 miles) or 84% of the overall network; virtually the same as Alternative A, with the exception that Alternative C would manage 72 more miles of open routes than Alternative A. Managing for the Alternative C network in the long-term would have essentially the same direct, localized threat of open routes spreading noxious weeds by motor vehicle use as Alternative A.

Noxious Weeds in Riparian Areas: Under Alternative C, of the 24 routes that are in, through or cross riparian areas, 22 or 92% would be open to all types of motor vehicle use, resulting in 4% more open routes than exist in Alternative A. Of the 35 routes that are within 300' of riparian areas, 33 or 94% would be open in Alternative C; 11% more than those open in Alternative A. Finally, of the 21 routes that are within 0.25 miles of riparian areas, 20 or 95% would be open under Alternative C; 38% more than those open in Alternative A. The potential route designations of Alternative C would slightly to moderately increase opportunities for motor vehicle access to riparian areas, which could moderately increase the potential for long-term, indirect spread of noxious weeds in such areas, contributing only slightly to minimizing damage to vegetation and watersheds and disruption of wildlife habitats associated with riparian areas (43 CFR 8342.1(a),(b)).

Noxious Weeds Inventory and Treatment Areas: Under Alternative C, of the 101 routes (166 miles) that are in or through inventoried weed areas, 85 routes (147 miles) or 84% would be open to all motorized vehicles or open with restrictions; 7% more open routes in these areas than would be open in Alternative A. This represents a direct, long-term, minor increase in the potential for the spread of noxious weed species from known infestation sites to other non-infested areas.

Regarding motor vehicle routes available for noxious weed management actions, of the 527 routes (659 miles) that are in or through weed management areas, under Alternative C, 467 routes (608 miles) or 89% are open or open with restrictions; 8% more open routes than in Alternative A. Similarly, 49 routes (47 miles) or 9% are limited to administrative uses only; 6% more administrative routes than are in Alternative A. This represents a minor increase in opportunities for motorized access potentially needed for the long-term, direct control of noxious weeds.

0.6.2.7.4 Alternative D

General: Under Alternative D, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions (40%), limited to administrative use only, or closed. At 80, few routes (9% of overall network) would be recommended for closure to all motorized modes of travel and 449 routes (51% of overall network) would be recommended for administrative use only. This would result in 1% fewer closed routes in Alternative D than already exist in Alternative A and in 45% more routes designated for administrative use only in Alternative D than exist in Alternative A. In reducing the open routes 44% from Alternative A to 346 open routes (584 miles) or 62% of the overall network and in increasing routes for administrative use only by 45% for Alternative D, the long-term, direct, potential for motor vehicle use of these open routes to spread noxious weeds would be minor to moderate, due to reduced traffic volume on administrative routes.

Additionally, the actual miles of routes closed under Alternative D would be 66 or about 7% and those limited to administrative use would be 313 or about 32% of the existing mileage. This would result in 4% fewer miles of routes closed in Alternative D than the current 11% closure mileage in Alternative A. Additionally, there would be 25% more route miles identified for administrative use only in Alternative D than the current 6% mileage in Alternative A.

Alternative D would result in an overall moderate reduction of motorized public access. This would result in a moderate reduction of the potential for the long-term, direct, spread of noxious weeds on a localized basis, contributing to minimizing damage to vegetation and watersheds (43 CFR 8342.1(a)).

The potential for the spread of noxious weeds in the Mill Creek/Bundy TMA would be greatly diminished by a 69% reduction in route density from the Alternative A high of 2.5 to 0.8 open routes per square mile the Alternative D. Similarly, the potential for spreading noxious weeds in the Shepherd TMA would be diminished to a minor degree by a 19% reduction in route density from the Alternative A high of 8.9 to 7.2 miles per square mile of open routes in Alternative D.

Noxious Weeds in Riparian Areas: Under Alternative D, of the 24 routes that are in, through or cross riparian areas, 12 or 50% would be open to all types of motor vehicle use, resulting in 38% fewer open routes than exist in Alternative A. Of the 35 routes that are within 300' of riparian areas, 11 or 31% would be open in Alternative D; 51% fewer than those open in Alternative A. Finally, of the 21 routes that are within 0.25 miles of riparian areas, only 9 or 43% would be open under Alternative D; 24% fewer than those open in Alternative A. The potential route designations of Alternative D would considerably reduce opportunities for motor vehicle access to riparian areas, which could moderately reduce the potential for long-term, indirect spread of noxious weeds in such areas, contributing to minimizing damage to vegetation and watersheds and disruption of wildlife habitats associated with riparian areas (43 CFR 8342.1(a),(b)).

Noxious Weeds Inventory and Treatment Areas: Under Alternative D, of the 101 routes (166 miles) that are in or through inventoried weed areas, 42 routes (112 miles) or 42% would be open to all motorized vehicles or open with restrictions; 36% fewer open routes in these areas than would be open in Alternative A. This represents a minor to moderate reduction in the potential

for the direct, long-term, spread of noxious weed species from known infestation sites to other non-infested areas.

Regarding motor vehicle routes available for noxious weed management actions, of the 527 routes (659 miles) that are in or through weed management areas, under Alternative D, 230 routes (410 miles) or 44% are open or open with restrictions; 37% fewer open routes than in Alternative A. Similarly, 245 routes (192 miles) or 47% are limited to administrative uses only; 43% more administrative routes than are in Alternative A. This represents a minor increase of motorized access potentially needed for the long-term, direct control of noxious weeds.

O.6.2.8 Special Status Plants

O.6.2.8.1 Impacts Common to All Alternatives

Special Status Plants would most likely be impacted by OHV use off of roads or trails associated with establishment of campsites, principally due to mechanical crushing of vegetation, soil compaction or erosion, and introduction of noxious invasive weeds.

O.6.2.8.2 Alternative A

Impacts would be the same as impacts common to all alternatives. Under Alternative A, there would be 824 miles of open routes (83% of all route miles). This alternative opens more routes than Alternative B (35%) and D (62%) and fewer routes than Alternative C (90%). Therefore potential impacts would be greater than Alternatives B and D, but less than Alternative C.

O.6.2.8.3 Alternative B

Impacts would be the same as impacts common to all alternatives. Under Alternative B, there would be 349 miles of open routes (35% of all route miles). This Alternative Closes or limits to administrative access more route miles than all alternatives. Alternative A designates 83% of route miles as open, Alternative C designates 90% of route miles as open and Alternative D designates 62% of route miles as open. Therefore potential impacts would be fewer than all other alternatives.

O.6.2.8.4 Alternative C

Impacts would be the same as impacts common to all alternatives. Under Alternative C, there would be 893 miles of open routes (90% of all route miles). This Alternative closes or limits to administrative access less route miles than all alternatives. Alternative A designates 83% of route miles as open, Alternative B designates 35% of route miles as open and Alternative D designates 62% of route miles as open. Therefore potential impacts would be more than all other alternatives.

O.6.2.8.5 Alternative D

Impacts would be the same as impacts common to all alternatives. Under Alternative D, there would be 624 miles of open routes (62% of all route miles). This Alternative closes or limits to administrative access more route miles than alternatives A and C, but less than Alternative B.

Alternative A designates 83% of route miles as open, Alternative B designates 35% of route miles as open and Alternative C designates 90% of route miles as open. Therefore potential impacts would be less than Alternatives A and C, but more than Alternative B.

0.6.2.9 Wildlife Habitat and Special Status Species

Wildlife resources, habitat and individual populations and animals, are sensitive to travel management issues. The comprehensive analysis presented below was used by resource specialists to develop trails and travel management actions, considering impacts to wildlife and special status species and providing sound multiple use of BLM administered public lands.

0.6.2.9.1 Methods and Assumptions

The analysis of potential impacts to wildlife resources is based on the expertise of BLM resource specialists at the Billings Field Office. These specialists possess an extensive knowledge of wildlife resources within the Planning Area. The impact analysis is also based on review of existing literature and information provided by non-planning team experts in the BLM and other agencies. In absence of quantitative data, best professional judgment was used. Impacts are sometimes described using ranges of potential impacts or in qualitative terms, if appropriate.

The following assumptions regarding wildlife resources are made:

- Wildlife habitat would be managed for those species identified as priority wildlife species.
- All surface disturbing activities include mitigation to reduce impacts to wildlife resources. Analysis of impacts includes any and all mitigation.
- Travel through the TMAs is expected to increase due to the increased demand for open space and commercial recreation opportunities on public lands, as well as periodic up trends in energy exploration and development, including renewable energy production.
- Planning decisions that involve changes to the available number and overall miles of roads open for public or administrative use, the number of acres open or closed to off-road travel, road improvement or maintenance activities, or specific travel restrictions (e.g., speed limits, seasonal restrictions; etc.) would affect wildlife resources to varying degrees.

In analyzing the potential effects of route designations on wildlife resources, differences between each action alternative's set of route designations and the no action, current management route designations are analyzed and expressed primarily in terms of 'absolute percent change' versus a more familiar method of expressing 'relative percent change'. As each alternative develops a different transportation network or combination of route designations (open, limited, closed) using the same supply of existing routes, changes in the apportionment of designations within a given alternative are then measured against the apportioned designations of the No Action Alternative. As a comparative example then, in relative terms, an alternative that proposes to close 562 routes in Alternative X out of the total 877 routes that exist where only 89 routes out of

877 routes are closed under No Action represents a 631% increase in the number of routes closed in Alternative X relative to the No Action Alternative. In absolute terms, however, the 89 closed routes in the No Action Alternative represent 10% of the current total network while under Alternative X, the 562 closed routes represent 64% of the potential network, resulting in 54% more routes closed in Alternative X than in the No Action Alternative. Planners determined to use the ‘absolute percent change’, primarily because a) the route ‘population’, or total number of routes under consideration for designation is constant for all alternatives and b) planners believe the results better depict the ‘shifting’ of designations within alternatives using the same route inventory.

Direct impacts to wildlife resources from management activities may result in mortality or displacement of individuals, disturbance in reduced air or water quality, and alteration of immediate environments through loss of, or changes to, key habitat components. Key habitat components include food availability or quality, cover from predators, insulation from extreme temperatures, nesting/roosting/denning habitat, water availability and quality, and travel corridors. Direct impacts may affect wildlife populations or habitats for the duration of the action, for a few days thereafter, for several growing seasons, or may continue indefinitely where the action results in permanent habitat loss.

Indirect impacts to wildlife resources from management activities typically result from influences of post-disturbance succession, recovery, or rehabilitation of the habitat. These impacts may be long-term, depending on the severity of the habitat alteration, and may change species assemblages (relative abundances or species composition), species behaviors, or overall population trends, benefiting some species while negatively affecting others. The direct and indirect effects of management actions on wildlife resources may vary widely, depending on a variety of factors such as the dynamics of the habitat (e.g. community type, size, shape, complexity, seral state, condition); season, intensity, duration, frequency, and extent of the disturbance; rate and composition of vegetation recovery; change in vegetation structure; type of soils; topography and microsites; animal species present; and the mobility of wildlife species (i.e., ability to leave a site or recolonize a site after a disturbance).

Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by the action and occur later or farther away but are still reasonably foreseeable. Cumulative impacts are the effects on the environment that result from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions.

Impacts are also described as to their context, intensity, and duration. Context generally refers to the geographic extent of impact (localized or widespread). Impact duration refers to how long an impact would last. Unless otherwise stated for any particular impact topic, short-term impacts would occur with five years of implementing the Plan, often during construction and recovery, while long-term impacts would occur beyond five years, often from operations. Impact intensity is the magnitude or degree to which a resource would be beneficially or adversely affected. The criteria used to rate the intensity of the impact for each impact topic are as follows:

The intensities of impacts are also described, where possible, using the following guidance:

- **Negligible:** No changes to wildlife resources would occur, or effects on individuals, populations, or habitat would be at or below the level of detection. If detected, the effects would be considered slight.
- **Minor:** Changes to wildlife resources would be measurable, although the changes would be small, short-term (less than seven consecutive days), and local. Mitigation measures would not be necessary.
- **Moderate:** Changes to wildlife resources would be measurable and would have appreciable consequences, although the effect would be relatively local. Mitigating measures would be necessary, but would most likely be successful.
- **Major:** Changes to wildlife resources would be measurable, have substantial consequences, and be noticed regionally. Mitigating measures would be necessary, and their success would be uncertain.

0.6.2.9.2 Impacts Common to All Alternatives

The primary impact issues to wildlife resources from other management programs in the Planning Area include loss or alteration of native habitats, increased invasion of noxious weeds and other exotic weed species, decreased water availability, increased habitat fragmentation, changes in habitat and species composition, disruption of species behavior leading to reduced reproductive fitness and/or increased susceptibility to predation, and direct mortality of wildlife. Surface disturbing actions that alter vegetation characteristics (e.g. structure, composition, and/or production) have the potential to affect habitat suitability for wildlife, particularly where the disturbance removes or reduces cover and/or food resources. Even minor changes to vegetation communities have the potential to affect resident wildlife populations.

Resource Management Plan Level: Current management for travel is to designated roads and trails outside of Travel Management Areas (TMAs). Eleven Travel Management Areas (TMAs) were described and routes were designated. Route designations, such as Open, Closed, or Limited, vary in Alternatives B, C, and D. TMAs management is a more detailed site specific analysis of management described in, BLM. 2003c. *Off-Highway Vehicle EIS and Proposed Plan Amendment for Montana, North Dakota, and South Dakota*. ROD June, 2003.

0.6.2.9.3 Alternative A

Big Game Species

Under the No Action Alternative, the 865 existing BLM routes (974 miles) that comprise the travel networks within big game general winter range (BGGWR) would continue to be managed using the five existing designations shown in **Error! Reference source not found.** and Figure 4.2.1.1a (below), with 8 out of every 10 existing routes (about 84%) open to all motorized uses or open with special seasonal or vehicular restrictions. Additionally, the route density within the BGGWR would remain fairly constant for the long-term at 1.7 open routes per square mile and 1.9 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes affects approximately 1,174 acres or 0.4% of the 275,839 acres of BGGWR within the TMAs. In other words, for every 1 acre of route footprint within the BGGWR, 234 acres would be without routes.

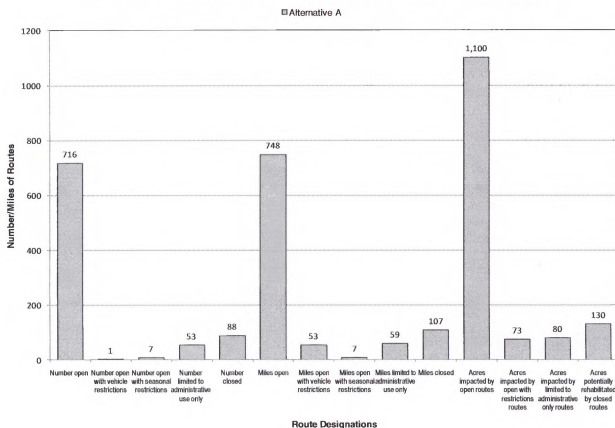
Under the No Action Alternative, the current open route network would continue the long-term, widespread conditions that directly and moderately affect big game species, such as impairment of big game species' movements, wildlife harassment by humans, and disruption of big game habitats through loss of, or changes to, key habitat components. Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, these impacts may increase to a minor, short-term extent on a localized basis as these new routes potentially become available and help spread out public use; such effects would ebb and flow with energy development.

Although Alternative A carries forward closures and restrictions to administrative use only on 141 routes at 166 miles, the long-term, direct, localized effect of these restricted routes on reducing BGGWR habitat fragmentation is minor, due to the availability of 724 open routes at 808 miles with the route densities that are described above.

Table O-22: Alternative A Route Designations in Big Game General Winter Range

Alternative A Route Designations in Big Game General Winter Range						
Potential Route Designations	Alternative A					
	Routes	Percent	Miles	Percent	Acres impacted by routes	Percent of total route acreage
Open	716	83%	747.6	76.8%	1100.3	79.6%
Open with vehicle restrictions	1	0.1%	52.7	5.4%	73.4	5.3%
Open with seasonal restrictions	7	0.8%	7.2	0.7%		
Limited to administrative use only	53	6.1%	59	6.1%	79.6	5.8%
Closed	88	10.2%	107.4	11%	129.7	9.4%
Average open routes per square mile (density)	1.7		1.9			
Percent of open route acreage					0.4%	
Ratio of open route acres to un-routed acres					1:234	

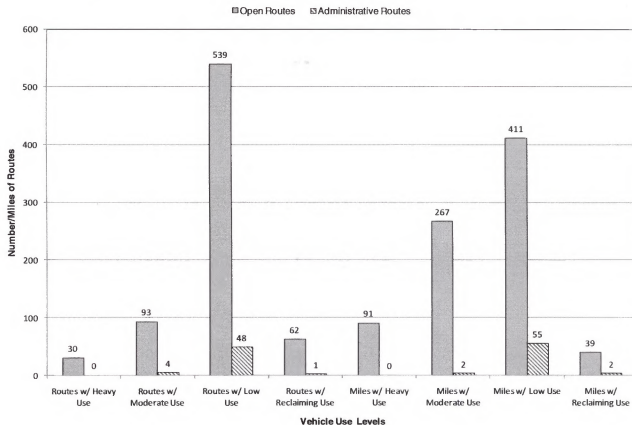
Figure 4.2.1.1a: Alternative A Route Designations in Big Game General Winter Range



Of the existing BLM routes within BGGWR under the No Action Alternative, 539 open routes (411 miles) are considered by resource specialists to have low vehicle use levels as shown in Figure 4.2.1.1b below. Conversely, 93 open routes (267 miles) have vehicle use levels estimated as moderate and only 30 open routes (91 miles) are estimated to have heavy vehicle use. The combination of 88 closed routes and the continuation of low vehicle use levels on 74% of open routes (51% of open route miles) and no observed vehicle use on 9% of open routes (5% of open route miles) in BGGWR would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a minor to moderate degree (43 CFR 8342.1 (b)).

Long term direct impacts to BGGWR would be minor to moderate for wildlife disturbance, displacement, and habitat loss due to low use or no use levels on 83% of open routes and 12% closed routes. The open road density of 1.9 miles of open routes per square mile exceeds the 1 mile per section road density recommended in the "Guidelines/ Recommendations" for road densities (Canfield, J.E. et. al. 1999).

Figure 4.2.1.1b: Alternative A Route Designations by in Big Game General Winter Range
Estimated Vehicle Use Levels



Sage-Grouse

The current open route network would continue the long-term, localized conditions that directly and moderately affect sage-grouse at and near Lek sites, as well as within nesting habitat, such as impairment of species' movements, harassment by humans, and disruption of habitat through loss of, or changes to, key habitat components. Additionally, as the potential for new route development is realized with boom cycles in population, energy exploration and development, these impacts may increase to a minor, short-term local extent as these new routes potentially become available and help spread out public use.

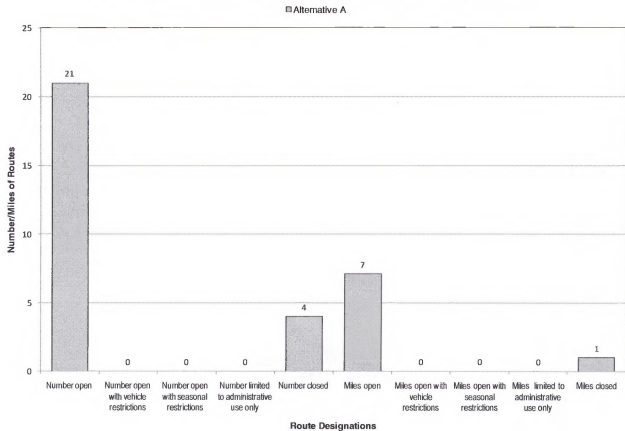
Leks and Nesting Habitat

Under the No Action Alternative, of the 25 routes that are within 0.25 miles of identified sage-grouse leks, 21 routes (7.1 miles) or 84% would be open to all types of motor vehicle use. Only 4 routes (1 mile) or 16% would be closed to motor vehicle use. The long-term, direct, localized effect of these route closures on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be negligible, due to the availability of many open routes near the lek sites (43 CFR 8342.1(b)).

Table O-23: Alternative A Route Designations within ¼-mile of Sage-Grouse Leks

Alternative A Route Designations within ¼-mile of Sage-Grouse Leks				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	21	84%	7.1	87.7%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	0	0%	0	0%
Limited to administrative use only	0	0%	0	0%
Closed	4	16%	1.0	12.3%

Figure 4.2.1.2a: Alternative A Route Designations within 1/4-mile of Sage Grouse Leks



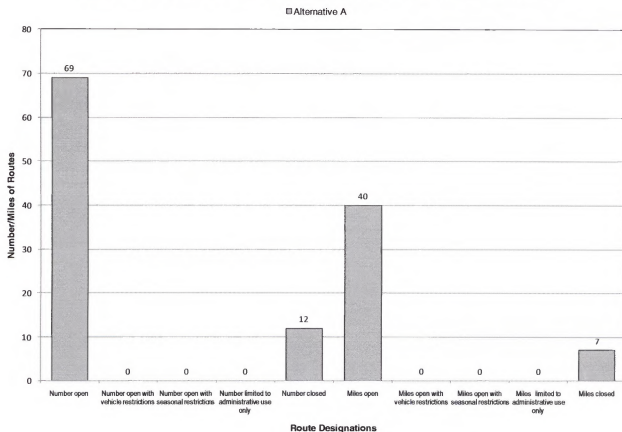
Of the 81 routes that are within 0.6 miles of identified sage-grouse leks, 69 routes (40 miles) or 85% would be open. Only 12 routes (7 miles) or 15% would be closed to motor vehicle use. The long-term, direct, localized effect of these route closures on reducing habitat fragmentation

and/or minimizing the potential for wildlife harassment would be minor, due to the availability of many open routes near the lek sites (43 CFR 8342.1(b)).

Table O-24: Alternative A Route Designations within 0.6 miles of Sage-Grouse Leks

Alternative A Route Designations within 0.6 miles of Sage-Grouse Leks				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	69	85.2%	40	85.1%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	0	0%	0	0%
Limited to administrative use only	0	0%	0	0%
Closed	12	14.8%	7	14.9%

Figure 4.2.1.2b: Alternative A Route Designations within 0.6 miles of Sage Grouse Leks



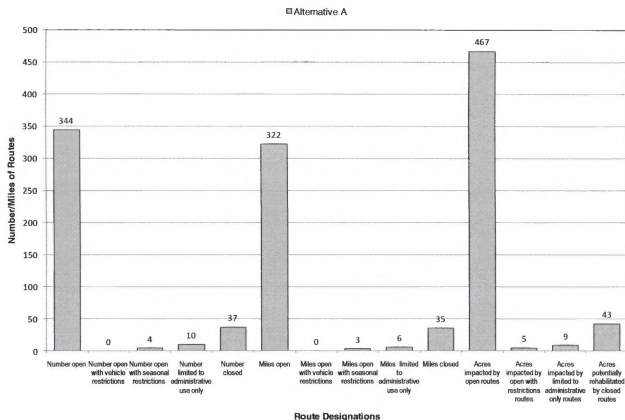
Of the 395 routes that are within nesting habitat (within 2 miles of identified sage-grouse leks), 348 routes (325 miles) or 88% would be open or open with seasonal restrictions. Only 10 routes (6 miles) or 3% would be limited to administrative use only, while 37 routes (35 miles) or 9%

would be closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes affects approximately 472 acres or 0.3% of the area within 2 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 2-mile nesting habitat, 332 acres would be without routes. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 43 acres or 8% of the total route acreage within the 2-mile nesting habitat. This would be a continuation of a long-term, direct, localized minor reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Table O-25: Alternative A Route Designations in Sage-Grouse Nesting Habitat (2 miles from Leks)

Alternative A Route Designations in Sage-Grouse Nesting Habitat (2 miles from Leks)						
Potential Route Designations	Alternative A					
	Routes	Percent	Miles	Percent	Acres impacted by routes	Percent of total within 2 miles
Open	344	87.1%	322	87.9%	466.8	89.3%
Open with vehicle restrictions	0	0%	0	0%	5.0	1.0%
Open with seasonal restrictions	4	1.0%	3.3	0.9%		
Limited to administrative use only	10	2.5%	5.6	1.5%	8.5	1.6%
Closed	37	9.4%	35.4	9.7%	42.7	8.2%
Percent of open route acreage					0.3%	
Ratio of open route acres to un-routed acres					1:332	

Figure 4.2.1.2c: Alternative A Route Designations in Sage Grouse Nesting Habitat (2 miles from Leks)

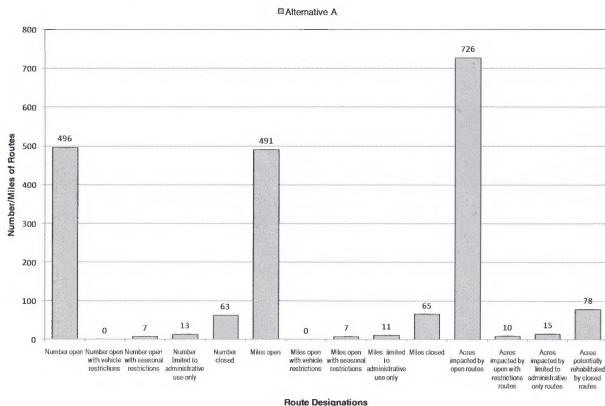


Of the 579 routes that are within nesting habitat (within 3 miles of identified sage-grouse leks), 503 routes (498 miles) or 87% would be open or open with seasonal restrictions. Only 13 routes (11 miles) or 2% would be limited to administrative use only, while 63 routes (65 miles) or 11% would be closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes affects approximately 736 acres or 0.2% of the area within 3 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 3-mile nesting habitat, 465 acres would be without routes. The footprint for routes that would be closed within the 3-mile nesting habitat would be 78 acres or 10% of the total. This would be a continuation of a long-term, direct, localized minor reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Table O-26: Alternative A Route Designations in Sage-Grouse Nesting Habitat (3 miles from Leks)

Alternative A Route Designations in Sage-Grouse Nesting Habitat (3 miles from Leks)						
Potential Route Designations	Alternative A					
	Routes	Percent	Miles	Percent	Acres impacted by routes	Percent of total within 3 miles
Open	496	85.7%	490.5	85.5%	726.2	87.6%
Open with vehicle restrictions	0	0%	0	0%	9.5	1.1%
Open with seasonal restrictions	7	1.2%	7.2	1.3%		
Limited to administrative use only	13	2.2%	10.9	1.9%	15.1	1.8%
Closed	63	10.9%	65.1	11.3%	78.4	9.5%
Percent of open route acreage					0.21%	
Ratio of open route acres to un-routed acres					1:465	

Figure 4.2.1.2d: Alternative A Route Designations in Sage Grouse Nesting Habitat (3 miles from Leks)



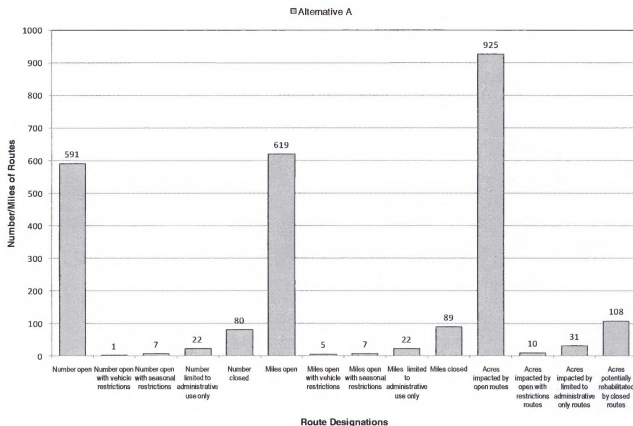
Finally, of the 701 routes that are within nesting habitat (within 4 miles of identified sage-grouse leks), 599 routes (631 miles) or 85% would be open or open with vehicle or seasonal restrictions.

Only 22 routes (22 miles) or 3% would be limited to administrative use only, while 80 routes (89 miles) or 11% would be closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes affects approximately 936 acres or 0.16% of the area within 4 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 4-mile nesting habitat, 623 acres would be without routes. The footprint for routes that would be closed within the 4-mile nesting habitat would be 108 acres or 10% of the total. This would be a continuation of a long-term, direct, localized minor reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Table O-27: Alternative A Route Designations in Sage-Grouse Nesting Habitat (4 miles from Leks)

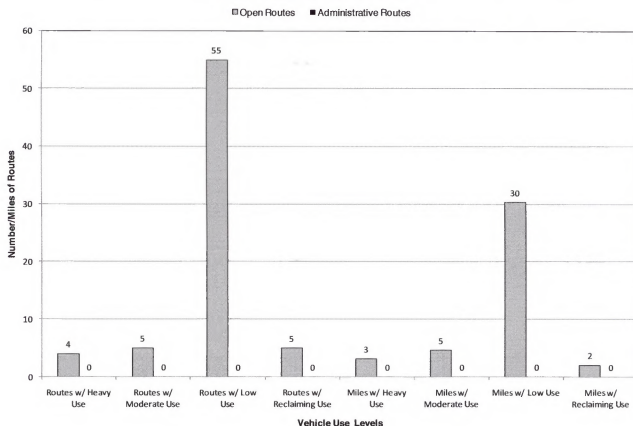
Alternative A Route Designations in Sage-Grouse Nesting Habitat (4 miles from Leks)						
Potential Route Designations	Alternative A					
	Routes	Percent	Miles	Percent	Acres impacted by routes	Percent of total within 4 miles
Open	591	84.3%	618.8	83.3%	925.4	86.2%
Open with vehicle restrictions	1	0.1%	5.4	0.7%	9.5	0.9%
Open with seasonal restrictions	7	1.0%	7.2	1.0%		
Limited to administrative use only	22	3.1%	22	3.0%	30.7	2.9%
Closed	80	11.4%	89.3	12.0%	107.7	10.0%
Percent of open route acreage					0.16%	
Ratio of open route acres to un-routed acres					1:623	

Figure 4.2.1.2e: Alternative A Route Designations in Sage Grouse Nesting Habitat (4 miles from Leks)



Of the 81 existing BLM routes (47 miles) that comprise the travel routes within 0.6 miles of sage-grouse leks under the No Action Alternative, 60 open routes (30 miles) or 80% are considered by resource specialists to have low or no observed vehicle use. Conversely, 5 open routes (5 miles) or 7% have vehicle use levels estimated as moderate and only 4 open routes (3 miles) or 6% are estimated to have heavy vehicle use levels. The combination of 12 closed routes and the continuation of low or no observed vehicle use on 87% of open routes (81% of route miles) within 0.6 miles of sage-grouse lek sites would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a minor to moderate degree (43 CFR 8342.1 (b)).

Figure 4.2.1.2f: Alternative A Route Designations by Estimated Vehicle Use Levels for Routes within 0.6 miles of Sage Grouse Leaks



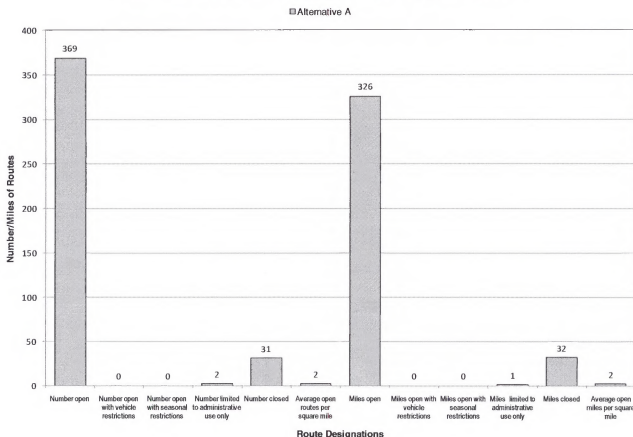
Greater Sage-Grouse Protection Priority Areas

Under the No Action Alternative, sage-grouse Protection Priority Areas (PPAs) would not be allocated. However, for analysis purposes, the route designations that follow would be for the same geographic areas that would become the PPAs in Alternatives B, C and D. Therefore, under the No Action Alternative, the 402 existing BLM routes (359 miles) that comprise the travel networks within these geographic areas would continue to be managed using five existing designation types, with more than 9 out of every 10 existing routes (92%) open to all motorized uses. Additionally, the route density within these areas would remain fairly constant for the long-term at 2 open routes per square mile and 1.8 miles of open routes per square mile. Although Alternative A carries forward closures and restrictions to administrative use only on 33 routes (33 miles) or 8% of the routes, the long-term, direct, localized effect of these restricted routes on reducing habitat fragmentation is minor, due to the availability of 369 open routes at 326 miles with the route densities that are described above (43 CFR 8342.1(b)).

Table O-28: Alternative A Route Designations in Sage-Grouse PPAs

Alternative A Route Designations in Sage-Grouse PPA's				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	369	91.8%	326.1	90.9%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	0	0%	0	0%
Limited to administrative use only	2	0.5%	0.9	0.3%
Closed	31	7.7%	31.8	8.9%
Average open routes per square mile (density)	2		1.8	

Figure 4.2.1.2g: Alternative A Route Designations in Sage Grouse PPA's



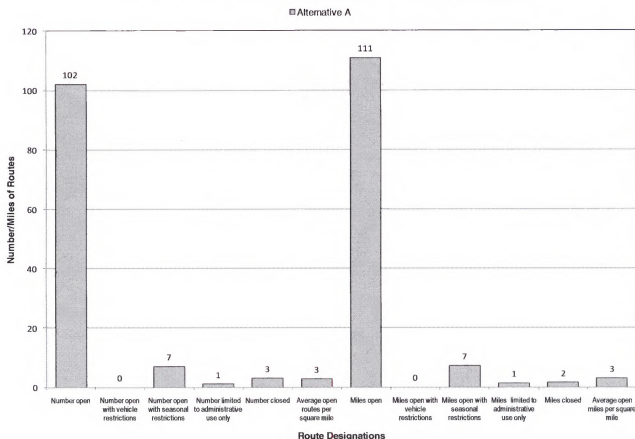
Greater Sage-Grouse Restoration Areas

Under the No Action Alternative, sage-grouse Restoration Areas (RAs) would not be allocated. However, for analysis purposes, the route designations that follow would be for the same geographic areas that would become the RAs in Alternatives B, C and D. Therefore, under the No Action Alternative, the 113 existing BLM routes (121 miles) that comprise the travel networks within these areas (RA) would continue to be managed using five existing designation types, with more than 9 out of every 10 existing routes (96%) open to all motorized uses or open with seasonal restrictions. Additionally, the route density within the RA would remain fairly constant for the long-term at 2.7 open routes per square mile and 2.9 miles of open routes per square mile. Although Alternative A carries forward closures and restrictions to administrative use only on 4 routes (3 miles) or 4% of the RA, the long-term, direct, localized effect of these restricted routes on reducing RA habitat fragmentation is negligible, due to the availability of 109 open routes at 118 miles with the route densities that are described above (43 CFR 8342.1(b)).

Table O-29: Alternative A Route Designations in Sage-Grouse RAs

Alternative A Route Designations in Sage-Grouse RAs				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	102	90.3%	110.8	91.6%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	7	6.2%	7.2	6.0%
Limited to administrative use only	1	0.9%	1.4	1.2%
Closed	3	2.7%	1.5	1.2%
Average open routes per square mile (density)	2.7		2.9	

Figure 4.2.1.2h: Alternative A Route Designations in Sage Grouse RPAs



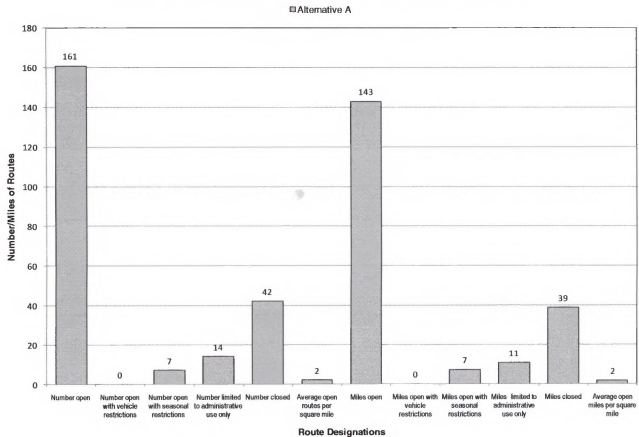
Greater Sage-Grouse General Habitat

Under the No Action Alternative, sage-grouse PPAs, RAs, and General habitat would not be allocated; however, they would be allocated in Alternatives B, C, and D. Route designations for those geographic areas (potential PPA/RA/General) are discussed in the previous two sections. However, for analysis purposes, the route designations that follow would be for the remaining sage-grouse general habitat. Under the No Action Alternative, the 224 existing BLM routes (200 miles) that comprise the travel networks within the remaining sage-grouse general habitat would continue to be managed using five existing designation types, with more than 7 out of every 10 existing routes (75%) open to all motorized uses or open with seasonal restrictions. Additionally, the route density within the remaining general habitat would remain fairly constant for the long-term at 1.8 open routes per square mile and 1.6 miles of open routes per square mile. Alternative A carries forward closures and restrictions to administrative use only on 56 routes (49 miles) or 25% of the remaining general habitat. The continued long-term, direct, localized effect of these restricted routes on reducing habitat fragmentation is minor, due to the availability of 168 open routes at 150 miles with the route densities that are described above (43 CFR 8342.1(b)).

Table O-30: Alternative A Route Designations in Sage-Grouse General Habitat

Alternative A Route Designations in Sage-Grouse General Habitat				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	161	71.9%	142.9	71.6%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	7	3.1%	7.2	3.6%
Limited to administrative use only	14	6.3%	10.7	5.4%
Closed	42	18.8%	38.7	19.4%
Average open routes per square mile (density)	1.8		1.6	

Figure 4.2.1.2i: Alternative A Route Designations in Sage Grouse General Habitat



Overall, this Alternative would provide negligible to minor protection of sage-grouse leks and nesting habitat from habitat fragmentation and disturbance from travel routes within the Travel Management Areas (TMAs). The direct, long-term, local impacts to sage-grouse would continue to occur.

Prairie Dogs

The current open route network would continue the long-term, localized conditions that directly and moderately affect prairie dogs (white-tailed and black-tailed) at or within 0.5 miles of known prairie dog communities, such as impairment of species' movements, harassment by humans, and disruption of habitat through loss of, or changes to, key habitat components. Additionally, as the potential for new route development is realized with boom cycles in population, energy exploration, and development, these impacts may increase to a minor, short-term local extent as these new routes potentially become available and help spread out public use.

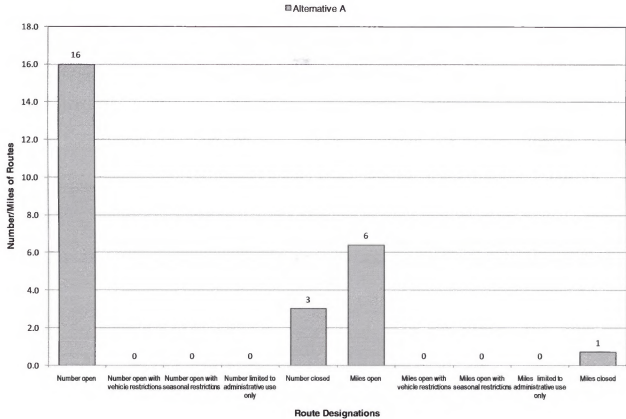
White-tailed Prairie Dogs

Under the No Action Alternative, of the 19 routes that are within 0.5 miles of identified white-tailed prairie dog "towns", 16 routes (6.4 miles) or 84% would be open to all types of motor vehicle use. Only 3 routes (0.7 mile) or 16% would be closed to motor vehicle use. The long-term, direct, localized effect of these route closures on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be negligible, due to the availability of the 16 open routes near the "town" sites (43 CFR 8342.1(b)).

Table O-31: Alternative A Route Designations within 1/2-mile of White-tailed Prairie Dog Habitat

Alternative A Route Designations within 1/2-mile of White-tailed Prairie Dog Habitat				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	16	84.2%	6.4	88.9%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	0	0%	0	0%
Limited to administrative use only	0	0%	0	0%
Closed	3	15.8%	0.7	9.7%

Figure 4.2.1.3a: Alternative A Route Designations within 0.5 miles of White-tailed Prairie Dog Habitat



Black-tailed Prairie Dogs

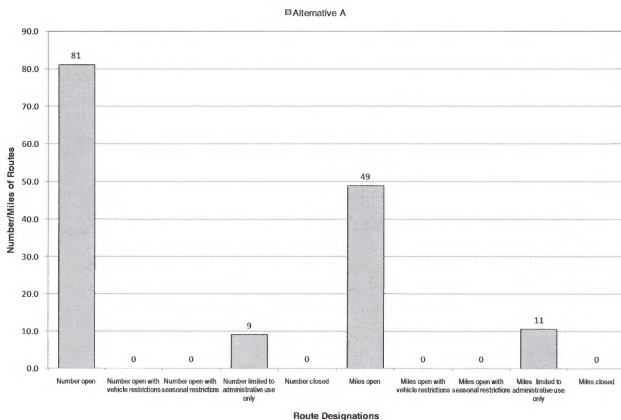
Under the No Action Alternative, of the 90 routes that are within 0.5 mile of identified black-tailed prairie dog “towns”, 81 routes (48.8 miles) or 90% would be open to all types of motor vehicle. No routes would be closed and only 9 routes (10.5 mile) or 10% would be limited to administrative use only. The long-term, direct, localized effect of these route restrictions on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be negligible, due to the availability of the 81 open routes near the “town” sites (43 CFR 8342.1(b)).

There would be negligible benefits to prairie dog habitat with this Alternative. The long-term, direct, localized, and moderate impacts on habitat fragmentation and prairie dog harassment would continue.

Table O-32: Alternative A Route Designations within 1/2-mile of Black-tailed Prairie Dog Habitat

Alternative A Route Designations within 1/2-mile of Black-tailed Prairie Dog Habitat				
Potential Route Designations	Alternative A			
	Routes	Percent	Miles	Percent
Open	81	90.0%	48.8	82.3%
Open with vehicle restrictions	0	0%	0	0%
Open with seasonal restrictions	0	0%	0	0%
Limited to administrative use only	9	10.0%	10.5	17.7%
Closed	0	0%	0	0%

Figure 4.2.1.3b: Alternative A Route Designations within 0.5 miles of Black-tailed Prairie Dog Habitat



Summary Alternative A - Impacts from Trails and Travel Management

Under Alternative A, there would be 763.6 miles of open routes and 108.6 miles of closed routes. The impacts to wildlife and special status species as a result of implementing actions associated with travel management would include conflicts with motorized activities and road densities within associated habitats. Short-term impacts would include disruption and displacement of individuals and direct mortality to less mobile species. Long-term adverse impacts would include habitat loss and fragmentation with the development of roads.

O.6.2.9.4 Alternative B

Big Game Species

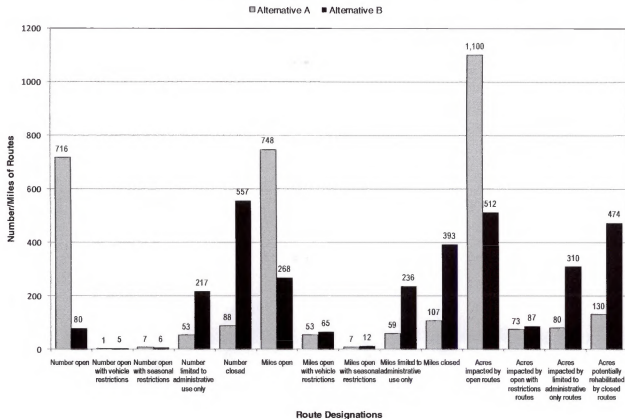
Under Alternative B, the 865 existing BLM routes (974 miles) that comprise the travel networks within big game general winter range (BGGWR) would continue to be managed using five existing designation types shown, with just over 1 out of every 10 existing routes (91 routes or about 11%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 73% fewer open routes in Alternative B than would be open in Alternative A. Additionally; the route density within the BGGWR would be reduced by 87% for the long-term to 0.2 open routes per square mile and reduced by 57% to 0.8 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes affects approximately 599 acres or 0.2% of the 275,839 acres of BGGWR within the TMAs. In other words, for every 1 acre of route footprint within the BGGWR, 460 acres would be without routes.

Alternative B proposes closures and restrictions to administrative use only on a combined 774 routes at 629 miles, a 73% increase from these designations in Alternative A. The long term, direct, localized effect of these restricted routes on reducing BGGWR habitat fragmentation is major, due to the reduced availability and use of open routes to only 91 (at 345 miles) with the route densities that are described above.

Table O-33: Alternative B Route Designations for Big Game Winter Range (compared to Alt. A)

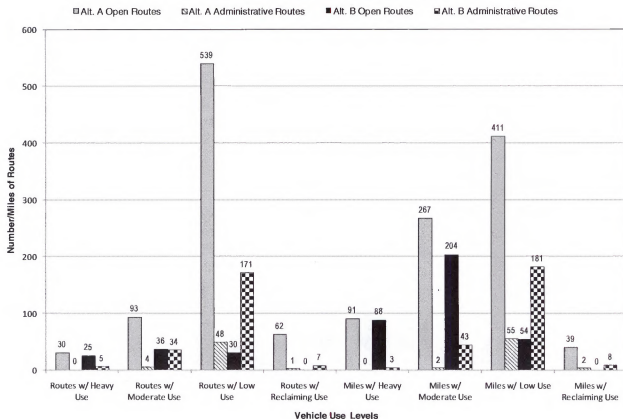
Alternative B Route Designations for Big Game Winter Range (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	716	83%	747.6	76.8%	80	9.2%	-636	-73.5%	268	27.5%	-480	-49.3%
Open with vehicle restrictions	1	0.1%	52.7	5.4%	5	0.6%	4	0.5%	65.1	6.7%	12.4	1.3%
Open with seasonal restrictions	7	0.8%	7.2	0.7%	6	0.7%	-1	-0.1%	11.8	1.2%	4.6	0.5%
Limited to administrative use only	53	6.1%	59	6.1%	217	25.1%	164	19.0%	236	24.2%	177	18.2%
Closed	88	10.2%	107.4	11%	557	64.4%	469	54.2%	393	40%	285.6	29.3%
Average open routes per square mile (density)	1.7		1.9		0.2		-1.5	-87.4%	0.8		-1.1	-57.3%
Route- Acres	Acres impacted by routes		Percent of total route acreage		Acres impacted by routes		Percent of total route acreage		Acres change from Alt. A		% change from Alt. A	
Open	1100.3		79.6%		512.1		37.0%		-588.2		-42.5%	
Open with restrictions	73.4		5.3%		86.6		6.3%		13.2		1.0%	
Limited to administrative use only	79.6		5.8%		309.7		22.4%		230.1		16.6%	
Closed	129.7		9.4%		474.4		34.3%		344.7		24.9%	
Percent of open route acreage	0.4%				0.2%							
Ratio of open route acres to unrouted acres	1:234				1:460							

Figure 4.2.2.1a: Alternative B Route Designations in Big Game General Winter Range (Compared to AIL A)



Of the existing BLM routes within BGGWR under the Alternative B, 30 open routes (54 miles) are considered by resource specialists to have low vehicle use levels. Conversely, 36 open routes (204 miles) have vehicle use levels estimated as moderate and only 25 open routes (88 miles) are estimated to have heavy vehicle use. The combination of 557 closed routes and the low vehicle use levels on 33% of open routes (16% of open route miles) and 79% of administrative use only routes (77% administrative route miles) in BGGWR would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a moderate to major degree (43 CFR 8342.1 (b)).

Figure 4.2.2.1b: Alternative B Route Designations in Big Game General Winter Range by Estimated Vehicle Use Levels (Compared to Alt. A.)



Overall, this Alternative would provide moderate to major protection of big game winter range. The direct, local, and long term effects of route use on big game winter range such as wildlife harassment, human-caused animal mortality, stress, or displacement of individual animals would be reduced to a moderate to major degree on big game winter range. Route densities would be reduced to 0.2 miles per square mile (87% less) and 73% fewer open routes versus Alternative A. The open road density of 0.2 miles of open routes per square mile is 80% below the 1 mile per section road density recommended in the "Guidelines/ Recommendations" for road densities.

BLM Road Density Analysis indicated that 1,391,647 acres of BGWR CAPS SCORE 1 and 2 areas, (of all ownerships with any public land ownership (surface or subsurface)) have road densities that exceed 0.5 miles per square mile. This Alternative would require roads to be gated or closed during crucial seasons where they impact big game winter range or parturition areas. Public access in these areas would vary dependent on the depth of winter snow. In greater snow depth years, disturbance impacts to big game would decrease due to reduced public access. In these areas, gating, closures, or reclamation of roads would reduce impacts to big game winter range by 69% and 57% respectively when compared to Alternative C and Alternative D. This would directly contribute in the long-term to decreasing the effects of route use, such as wildlife harassment, displacement, and stress to big game on winter ranges to a moderate to major degree.

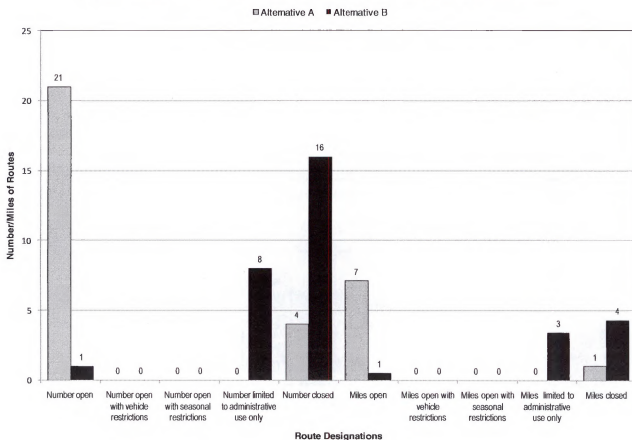
Greater Sage-Grouse Leks and Nesting Habitat

Under the Alternative B, of the 25 routes that are within 0.25 miles of identified sage-grouse leks, only 1 route (0.5 miles) or 4% would be open to all types of motor vehicle use. Conversely, 16 routes (4.3 miles) or 64% would be closed to motor vehicle use and 8 routes (3.4 miles) or 32% would be limited to administrative use only. This would result in 80% fewer open routes within 0.25 miles of leks in Alternative B than would be open in Alternative A. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be major, due to the extremely limited public motorized access opportunities near the lek sites (43 CFR 8342.1(b)).

Table O-34: Alternative B Route Designations within ¼-mile of Sage-Grouse Leks (compared to Alt. A)

Alternative B Route Designations within ¼-mile of Sage-Grouse Leks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	21	84.0%	7.1	87.7%	1	4.0%	-20	-80.0%	0.5	6.1%	-6.6	-81.6%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0	0.0%	0.0	0.0%	8	32.0%	8	32.0%	3.4	41.5%	3.4	41.5%
Closed	4	16.0%	1.0	12.3%	16	64.0%	12	48.0%	4.3	52.4%	3.3	40.1%

Figure 4.2.2.2a: Alternative B Route Designations within 1/4-mile of Sage Grouse Leaks

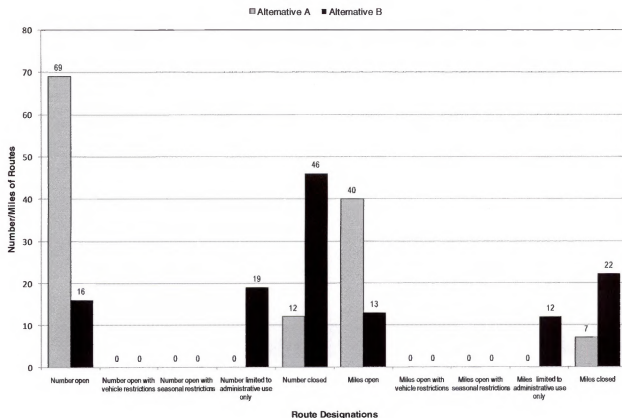


Under the Alternative B, of the 81 routes that are within 0.6 miles of identified sage-grouse leks, 16 routes (12.9 miles) or 20% would be open to all types of motor vehicle use. Conversely, 46 routes (22.2 miles) or 57% would be closed and 19 routes (11.9 miles) or 23% would be limited to administrative use only. This would result in 65% fewer open routes within 0.6 miles of leks in Alternative B than would be open in Alternative A. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be moderate to major, due to the limited public motorized access opportunities near the lek sites (43 CFR 8342.1(b)).

Table O-35: Alternative B Route Designations within 0.6 miles of Sage-Grouse Leaks (compared to Alt. A)

Alternative B Route Designations within 0.6 miles of Sage-Grouse Leaks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	69	85.2%	40.0	85.1%	16	19.8%	-53	-65.4%	12.9	27.4%	-27.1	-57.7%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0	0.0%	0.0	0.0%	19	23.5%	19	23.5%	11.9	25.3%	11.9	25.3%
Closed	12	14.8%	7.0	14.9%	46	56.8%	34	42%	22.2	47.2%	15.2	32.3%

Figure 4.2.2.2b: Alternative B Route Designations within 0.6 miles of Sage Grouse Leaks (Compared to Alt. A)

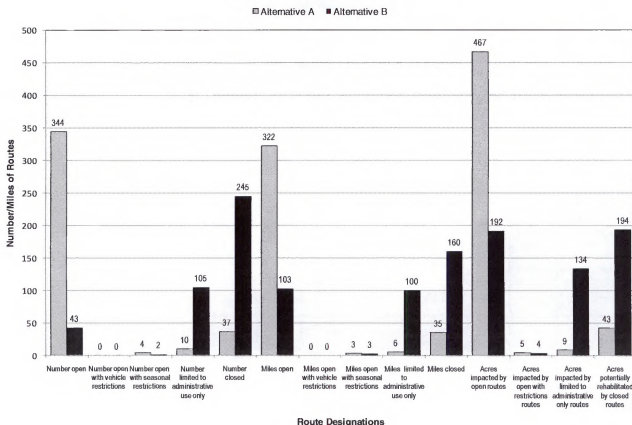


Of the 395 routes that are within nesting habitat (within 2 miles of identified sage-grouse leks), 44 routes (106 miles) or 11% would be open or open with seasonal restrictions. Conversely, 105 routes (100 miles) or 27% would be limited to administrative use only, while 245 routes (160 miles) or 62% would be closed to motor vehicle use. This would result in 76% fewer open routes within 2 miles of leks in Alternative B than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 196 acres or 0.12% of the total area within 2 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 2-mile nesting habitat, 802 acres would be without routes. This would result in 53% fewer open route acres in Alternative B than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 194 acres or 37% of the total route acreage within the 2-mile nesting habitat; 29% more than in Alternative A. This would be a long-term, direct, localized moderate to major reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Table O-36: Alternative B Route Designations in Sage-Grouse Nesting Habitat - 2 miles from Leks (compared to Alt. A)

Alternative B Route Designations in Sage-Grouse Nesting Habitat - 2 miles from Leks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	344	87.1%	322.0	87.9%	43	10.9%	-301	-76.2%	103.1	28.1%	-218.9	-59.8%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	4	1.0%	3.3	0.9%	2	0.5%	-2	-0.5%	2.7	0.7%	-0.6	-0.2%
Limited to administrative use only	10	2.5%	5.6	1.5%	105	26.6%	95	24.1%	100.4	27.4%	94.8	25.9%
Closed	37	9.4%	35.4	9.7%	245	62%	208	52.7%	160.1	43.7%	124.7	34.0%
Route- Acres	Acres impacted by routes		Percent of total route acreage		Acres impacted by routes		Percent of total route acreage		Acres change from Alt. A		% change from Alt. A	
Open	466.8		89.3%		191.5		36.6%		-275.3		-52.7%	
Open with restrictions	5.0		1.0%		4.3		0.8%		-0.7		-0.1%	
Limited to administrative use only	8.5		1.6%		133.8		25.6%		125.3		23.9%	
Closed	42.7		8.2%		193.6		37.0%		150.9		28.8%	
Percent of open route acreage	0.3%				0.12%							
Ratio of open route acres to unrouted acres	1:332				1:802							

Figure 4.2.2.2c: Alternative B Route Designations in Sage Grouse Nesting Habitat - 2 miles from Leks (Compared to Alt. A)

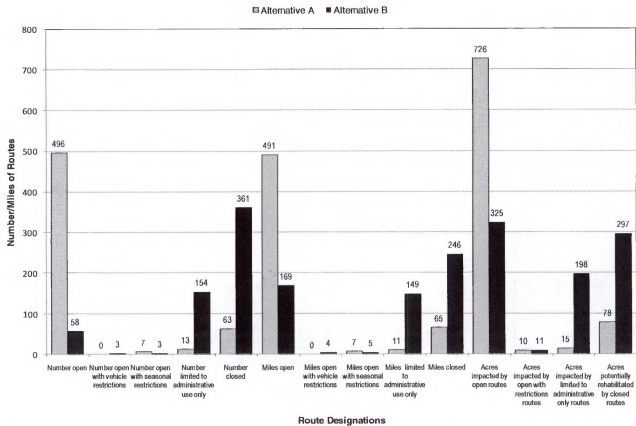


Of the 579 routes that are within nesting habitat (within 3 miles of identified sage-grouse leks), 64 routes (178 miles) or 11% would be open or open with vehicle or seasonal restrictions. Conversely, 154 routes (149 miles) or 27% would be limited to administrative use only, while 361 routes (246 miles) or 62% would be closed to motor vehicle use. This would result in 76% fewer open routes within 3 miles of leks in Alternative B than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 335 acres or 0.10% of the total area within 3 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 3-mile nesting habitat, 1,023 acres would be without routes. This would result in 48% fewer open route acres in Alternative B than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 297 acres or 36% of the total route acreage within the 3-mile nesting habitat; 26% more than in Alternative A. This would be a long-term, direct, localized moderate reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Table O-37: Alternative B Route Designations in Sage-Grouse Nesting Habitat - 3 miles from Leks (compared to Alt. A)

Alternative B Route Designations in Sage-Grouse Nesting Habitat - 3 miles from Leks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	496	85.7%	490.5	85.5%	58	10.0%	-438	-76%	169.0	29.5%	-321.5	-56.0%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	3	0.5%	3	0.5%	4.3	0.7%	4.3	0.7%
Open with seasonal restrictions	7	1.2%	7.2	1.3%	3	0.5%	-4	-0.7%	5.1	0.9%	-2.1	-0.4%
Limited to administrative use only	13	2.2%	10.9	1.9%	154	26.6%	141	24%	149.0	26.0%	138.1	24.1%
Closed	63	10.9%	65.1	11.3%	361	62.3%	298	51.5%	246.3	42.9%	181.2	31.6%
Route- Acres	Acres impacted by routes		Percent of total route acreage		Acres impacted by routes		Percent of total route acreage		Acres change from Alt. A		% change from Alt. A	
Open	726.2		87.6%		324.5		39.1%		-401.7		-48.5%	
Open with restrictions	9.5		1.1%		10.5		1.3%		1.0		0.1%	
Limited to administrative use only	15.1		1.8%		197.8		23.8%		182.7		22.0%	
Closed	78.4		9.5%		296.6		35.8%		218.2		26.3%	
Percent of open route acreage	0.21%				0.10%							
Ratio of open route acres to unrouted acres	1:465				1:1023							

Figure 4.2.2.2d: Alternative B Route Designations in Sage Grouse Nesting Habitat - 3 miles from Leks (Compared to Alt. A)

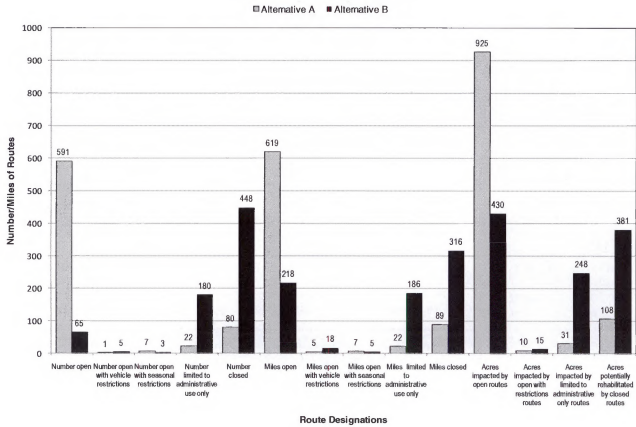


Of the 701 routes that are within nesting habitat (within 4 miles of identified sage-grouse leks), 73 routes (240 miles) or 10% would be open or open with seasonal restrictions. Conversely, 180 routes (186 miles) or 26% would be limited to administrative use only, while 448 routes (316 miles) or 64% would be closed to motor vehicle use. This would result in 75% fewer open routes within 4 miles of leks in Alternative B than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 443 acres or 0.08% of the total area within 4 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 4-mile nesting habitat, 1,313 acres would be without routes. This would result in 46% fewer open route acres in Alternative B than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 381 acres or 36% of the total route acreage within the 4-mile nesting habitat; 26% more than in Alternative A. This would be a long-term, direct, localized moderate reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Table O-38: Alternative B Route Designations in Sage-Grouse Nesting Habitat - 4 miles from Leks (compared to Alt. A)

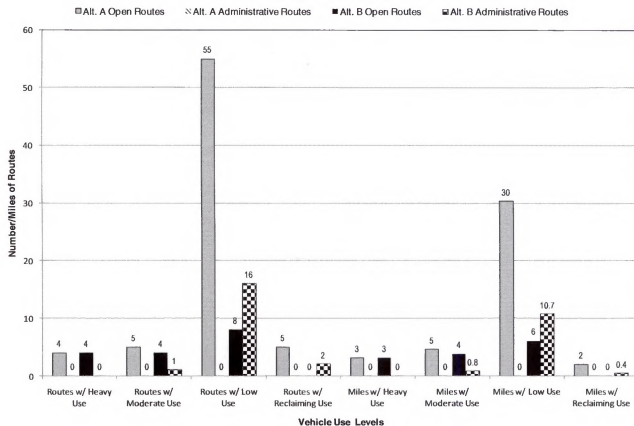
Alternative B Route Designations in Sage-Grouse Nesting Habitat - 4 miles from Leks (compared to Alt. A)													
Potential Route Designations	Alternative A				Alternative B								
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A	
Open	591	84.3%	618.8	83.3%	65	9.3%	-526	-75.0%	217.5	29.3%	-401.3	-54.0%	
Open with vehicle restrictions	1	0.1%	5.4	0.7%	5	0.7%	4	0.6%	17.8	2.4%	12.4	1.7%	
Open with seasonal restrictions	7	1.0%	7.2	1.0%	3	0.4%	-4	-0.6%	5.1	0.7%	-2.1	-0.3%	
Limited to administrative use only	22	3.1%	22.0	3.0%	180	25.7%	158	22.5%	186.1	25.1%	164.1	22.1%	
Closed	80	11.4%	89.3	12.0%	448	63.9%	368	52.5%	316.2	42.6%	226.9	30.6%	
Route- Acres	Acres impacted by routes		Percent of total route acreage		Acres impacted by routes		Percent of total route acreage		Acres change from Alt. A		% change from Alt. A		
Open	925.4		86.2%		429.7		40.0%		-495.7		-46.2%		
Open with restrictions	9.5		0.9%		14.6		1.4%		5.1		0.5%		
Limited to administrative use only	30.7		2.9%		248.0		23.1%		217.3		20.2%		
Closed	107.7		10.0%		381.0		35.5%		273.3		25.5%		
Percent of open route acreage	0.16%				0.08%								
Ratio of open route acres to unrouted acres	1:623				1:1313								

Figure 4.2.2.2e: Alternative B Route Designations in Sage Grouse Nesting Habitat - 4 miles from Leks (Compared to Alt. A)



Of the 81 existing BLM routes (47 miles) within 0.6 miles of sage-grouse leks under the Alternative B, 8 open routes (6 miles) are considered by resource specialists to have low vehicle use. Conversely, 4 open routes (4 miles) have vehicle use levels estimated as moderate and only 4 open routes (3 miles) are estimated to have heavy vehicle use. The combination of 46 closed routes and the low vehicle use levels on 50% of open routes (47% of open route miles) and low use or no observed use on 95% of administrative use only routes (93% administrative route miles) within 0.6 miles of sage-grouse leks would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a major degree (43 CFR 8342.1 (b)).

Figure 4.2.2.2f: Alternative B Route Designations by Estimated Vehicle Use Levels for Routes within 0.6 miles of Sage Grouse Leks



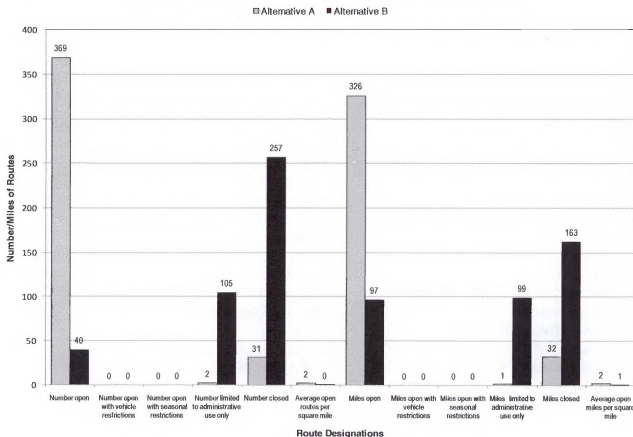
Greater Sage-Grouse Protection Priority Areas

Under Alternative B, sage-grouse Protection Priority Areas (PPAs) would be allocated and the 402 existing BLM routes (359 miles) that comprise the travel networks within the PPAs would be managed using five existing designation types, with only 1 out of every 10 existing routes (10%) open to all motorized uses. This would result in 82% fewer open routes within PPAs in Alternative B than would be open in Alternative A. Additionally, the route density within the PPAs would drop to 0.2 open routes per square mile and 0.5 miles of open routes per square mile. This would be an 89% reduction in open route density (70% reduction in the density of open route miles) in the PPAs from Alternative A. Alternative B would close and restrict to administrative use only 362 routes (262 miles) or 90% of the PPA routes. The long-term, direct, localized effect of these restricted routes on reducing PPA habitat fragmentation is major, due in part to the much smaller supply of 40 open routes at 97 miles with the route densities that are described above (43 CFR 8342.1(b)).

Table O-39: Alternative B Route Designations in Sage-Grouse PPAs (compared to Alt. A)

Alternative B Route Designations in Sage-Grouse PPAs (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	369	91.8%	326.1	90.9%	40	10.0%	-329	-81.8%	96.9	27.0%	-229.2	-63.9%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	2	0.5%	0.9	0.3%	105	26.1%	103	25.6%	99.3	27.7%	98.4	27.4%
Closed	31	7.7%	31.8	8.9%	257	63.9%	226	56.2%	162.5	45.3%	130.7	36.4%
Average open routes per square mile (density)	2.0		1.8		0.2		-1.8	-89.2%	0.5		-1.3	-70.3%

Figure 4.2.2.2g: Alternative B Route Designations in Sage Grouse PPAs



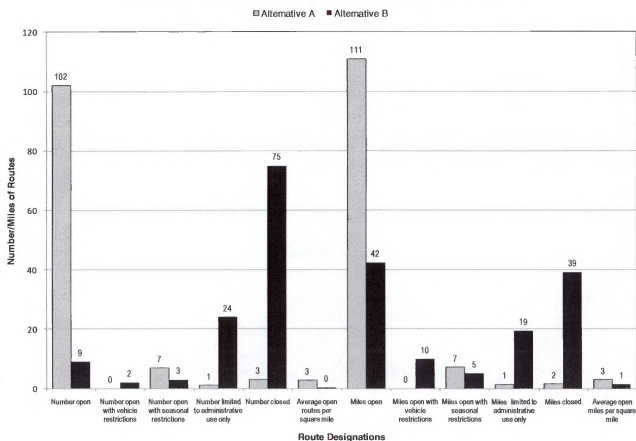
Greater Sage-Grouse Restoration Areas

Under Alternative B, sage-grouse Restoration Areas (RAs) would be allocated and the 113 existing BLM routes (121 miles) that comprise the travel networks within the RAs would continue to be managed using five existing designation types, with a little more than 1 out of every 10 existing routes (13%) open to all motorized uses and open with restrictions. This would result in 84% fewer open routes within RAs in Alternative B than would be open in Alternative A. Additionally, the route density within the RAs would drop to 0.3 open routes per square mile and 1.4 miles of open routes per square mile. This would be an 87% reduction in open route density (51% reduction in the density of open route miles) in the RAs from Alternative A. Alternative B would close and restrict to administrative use only 99 routes (59 miles) or 88% of the RA routes. The long-term, direct, localized effect of these restricted routes on reducing RA habitat fragmentation is major, due in part to the much smaller supply of 14 open routes at 57 miles with the route densities that are described above (43 CFR 8342.1(b)).

Table O-40: Alternative B Route Designations in Sage-Grouse RAs (compared to Alt. A)

Alternative B Route Designations in Sage-Grouse RAs (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	102	90.3%	110.8	91.6%	9	8.0%	-93	-82.3%	42.3	36.5%	-68.5	-55.1%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	2	1.8%	2	1.8%	9.9	8.5%	9.9	8.5%
Open with seasonal restrictions	7	6.2%	7.2	6.0%	3	2.7%	-4	-3.5%	5.1	4.4%	-2.1	-1.6%
Limited to administrative use only	1	0.9%	1.4	1.2%	24	21.2%	23	20.4%	19.4	16.8%	18	15.6%
Closed	3	2.7%	1.5	1.2%	75	66.4%	72	63.7%	39.1	33.8%	37.6	32.5%
Average open routes per square mile (density)	2.7		2.9		0.3		-2.4	-87.2%	1.4		-1.5	-51.4%

Figure 4.2.2.2h: Alternative B Route Designations in Sage Grouse RPAs



Greater Sage-Grouse General Habitat

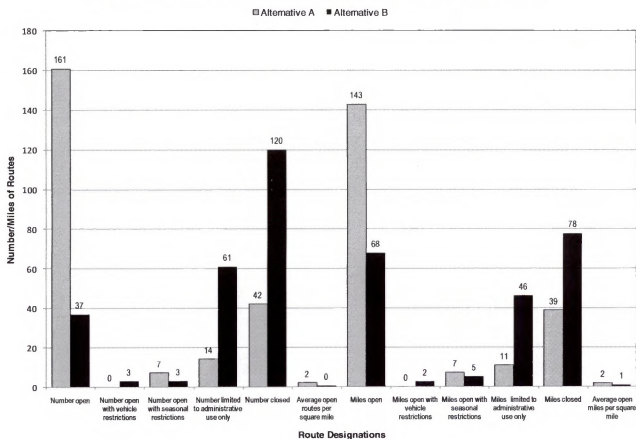
Under Alternative B, the 224 existing BLM routes (200 miles) that comprise the travel networks within the remaining sage-grouse general habitat would continue to be managed using five existing designation types, with almost 2 out of every 10 existing routes (19%) open to all motorized uses and open with restrictions. This would result in 57% fewer open routes within general habitat in Alternative B than would be open in Alternative A. Additionally, the route density within the general habitat would drop to 0.5 open routes per square mile and 0.8 miles of open routes per square mile. This would be a 74% reduction in open route density (50% reduction in the density of open route miles) in the general habitat from Alternative A.

Alternative B would close and restrict to administrative use only 181 routes (124 miles) or 81% of the general habitat routes. The long-term, direct, localized effect of these restricted routes on reducing general habitat fragmentation is major, due in part to the much smaller supply of 43 open routes at 75 miles with the route densities that are described above (43 CFR 8342.1(b)).

Table O-41: Alternative B Route Designations in Sage-Grouse General Habitat (compared to Alt. A)

Alternative B Route Designations in Sage-Grouse General Habitat (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	161	71.9%	142.9	71.6%	37	16.5%	-124	-55.4%	67.9	34.0%	-75	-37.6%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	3	1.3%	3	1.3%	2.4	1.2%	2.4	1.2%
Open with seasonal restrictions	7	3.1%	7.2	3.6%	3	1.3%	-4	-1.8%	5.1	2.6%	-2.1	-1.1%
Limited to administrative use only	14	6.3%	10.7	5.4%	61	27.2%	47	21.0%	46.2	23.2%	35.5	17.8%
Closed	42	18.8%	38.7	19.4%	120	53.6%	78	34.8%	77.9	39.0%	39.2	19.6%
Average open routes per square mile (density)	1.8		1.6		0.5		-1.4	-74.4%	0.8		-0.8	-49.8%

Figure 4.2.2.2i: Alternative B Route Designations in Sage Grouse General Habitat



Overall, this Alternative would provide moderate to major protection of sage-grouse leks and nesting habitat from habitat fragmentation and disturbance from travel routes within the Travel Management Areas (TMAs). The direct, long-term, local impacts to sage-grouse would be reduced to a moderate to major degree when compared to Alternative A.

Prairie Dogs

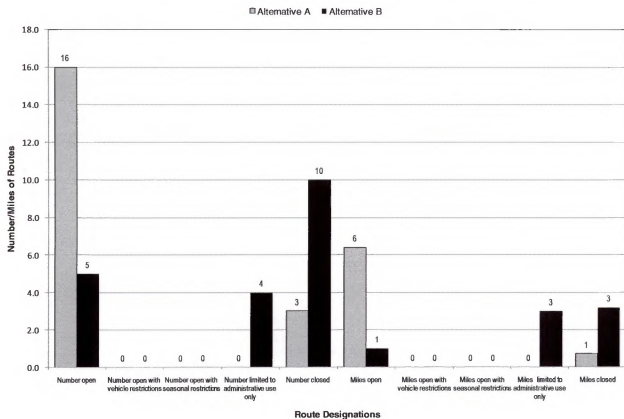
White-tailed Prairie Dogs

Under Alternative B, of the 19 routes that are within 0.5 miles of identified white-tailed prairie dog "towns", 5 routes (1 mile) or 26% would be open to all types of motor vehicle use. This would result in 58% fewer open routes within 0.5 miles of prairie dog "towns" in Alternative B than would be open in Alternative A. Only 4 routes (3 mile) or 21% would be limited to administrative use only and 10 routes (3.2 miles) or 53% would be closed to motor vehicle use. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be major, due in large part to limited public access in only 5 open routes near the "town" sites (43 CFR 8342.1(b)).

Table O-42: Alternative B Route Designations within 1/2-mile of White-tailed Prairie Dog Habitat (compared to Alt. A)

Alternative B Route Designations within 1/2-mile of White-tailed Prairie Dog Habitat (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	16.0	84.2%	6.4	88.9%	5.0	26.3%	-11	-57.9%	1.0	13.9%	-5.4	-75.0%
Open with vehicle restrictions	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0.0	0.0%	0.0	0.0%	4.0	21.1%	4	21.1%	3.0	41.7%	3	41.7%
Closed	3.0	15.8%	0.7	9.7%	10.0	52.6%	7	36.8%	3.2	44.4%	2.5	34.7%

Figure 4.2.2.3a: Alternative B Route Designations within 0.5 miles of White-tailed Prairie Dog Habitat (Compared to Alt. A)



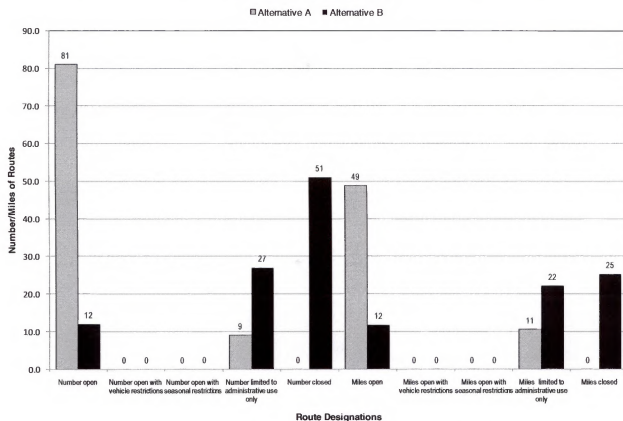
Black-tailed Prairie Dogs

Under Alternative B, of the 90 routes that are within 0.5 miles of identified black-tailed prairie dog "towns", 12 routes (11.8 miles) or 13% would be open to all types of motor vehicle use. This would result in 77% fewer open routes within 0.5 miles of prairie dog "towns" in Alternative B than would be open in Alternative A. Only 27 routes (22.1 mile) or 30% would be limited to administrative use only and 51 routes (25.3 miles) or 57% would be closed to motor vehicle use. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be major, due in large part to limited public access in only 12 open routes near the "town" sites (43 CFR 8342.1(b)).

Table O-43: Alternative B Route Designations within 1/2-mile of Black-tailed Prairie Dog Habitat (compared to Alt. A)

Alternative B Route Designations within 1/2-mile of Black-tailed Prairie Dog Habitat (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative B							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	81.0	90.0%	48.8	82.3%	12.0	13.3%	-69	-76.7%	11.8	19.9%	-37	-62.4%
Open with vehicle restrictions	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	9.0	10.0%	10.5	17.7%	27.0	30.0%	18	20.0%	22.1	37.3%	11.6	19.6%
Closed	0.0	0.0%	0.0	0.0%	51.0	56.7%	51	56.7%	25.3	42.7%	25.3	42.7%

Figure 4.2.2.3b: Alternative B Route Designations within 0.5 miles of Black-tailed Prairie Dog Habitat (Compared to Alt. A)



There would be major benefits to prairie dog habitat with this Alternative. The long-term, direct, and localized impacts to habitat fragmentation and prairie dog harassment would be reduced by the closure to motor vehicle use of 53-57% of routes when compared to Alternative A.

Summary Alternative B

Impacts would be the same as described under Alternative A, except more restrictive with 272.4 miles of open routes and 396.5 miles of closed routes.

O.6.2.9.5 Alternative C

General impacts are the same as those described in impacts common to all alternatives and under Alternative B. Other specific analysis, relative to Alternative C, of sensitive habitats and species follows.

Big Game Species

Under Alternative C, the 865 existing BLM routes (974 miles) that comprise the travel networks within big game general winter range (BGGWR) would continue to be managed using five existing designation types, with just over 8 out of every 10 existing routes (725 routes or about 84%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in only 0.1% more open routes in Alternative C than would be open in Alternative A, but 8% more open route miles than in Alternative A. Additionally, the route density within

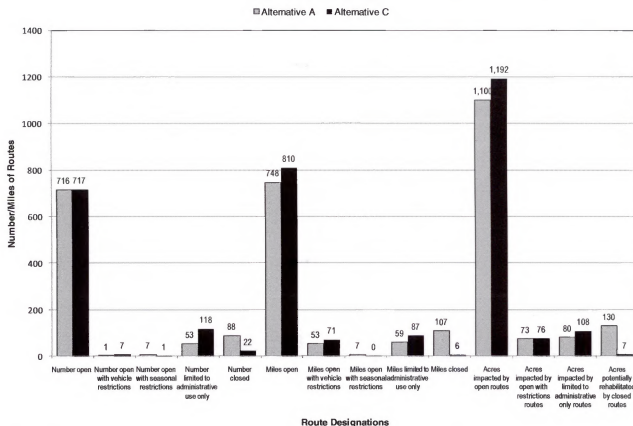
the BGGWR would remain the same at 1.7 open routes per square mile but would increase from Alternative A by 9% to 2 open route miles per square mile for Alternative C. The footprint (actual area of surface disturbance) of open routes affects approximately 1,267 acres or 0.5% of the 275,839 acres of BGGWR within the TMAs. In other words, for every 1 acre of route footprint within the BGGWR, 217 acres would be without routes.

Alternative C proposes closures and restrictions to administrative use only on a combined 140 routes at 93 miles, a 0.1% decrease from these designations in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing BGGWR habitat fragmentation is negligible, due to the availability and ongoing use of 725 open routes (at 882 miles) with the route densities that are described above.

Table O-44: Alternative C Route Designations for Big Game Winter Range (compared to Alt. A)

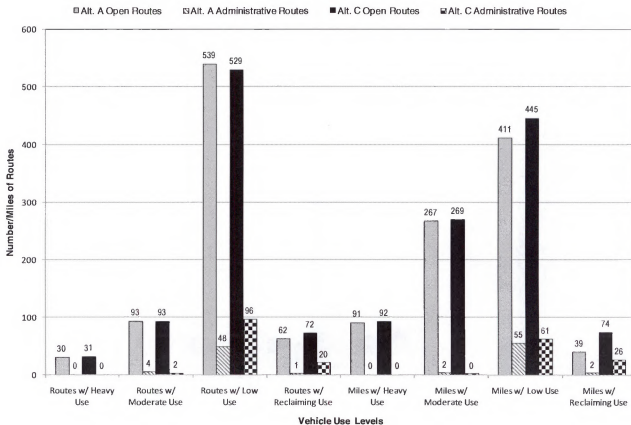
Alternative C Route Designations for Big Game Winter Range (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative C							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	716	83%	747.6	76.8%	717	82.9%	1	0.1%	809.7	83.1%	62.1	6.4%
Open with vehicle restrictions	1	0.1%	52.7	5.4%	7	0.8%	6	0.7%	70.7	7.3%	18	1.8%
Open with seasonal restrictions	7	0.8%	7.2	0.7%	1	0.1%	-6	-0.7%	0.2	0.0%	-7	-0.7%
Limited to administrative use only	53	6.1%	59	6.1%	118	13.6%	65	7.5%	87.3	9.0%	28.3	2.9%
Closed	88	10.2%	107.4	11%	22	2.5%	-66	-7.6%	5.9	0.6%	-101.5	-10.4%
Average open routes per square mile (density)	1.7	✕	1.9	✕	1.7	✕	0	0%	2.0	✕	0.2	9.1%
Route- Acres	Acres impacted by routes		Percent of total route acreage		Acres impacted by routes		Percent of total route acreage		Acres change from Alt. A		% change from Alt. A	
Open	1100.3		79.6%		1191.6		86.2%		91.3		6.6%	
Open with restrictions	73.4		5.3%		75.8		5.5%		2.4		0.2%	
Limited to administrative use only	79.6		5.8%		108.4		7.8%		28.8		2.1%	
Closed	129.7		9.4%		7.2		0.5%		-122.5		-8.9%	
Percent of open route acreage	0.4%				0.5%							
Ratio of open route acres to unrouted acres	1:234				1:217							

Figure 4.2.3.1a: Alternative C Route Designations in Big Game General Winter Range (Compared to Alt. A)



Of the existing BLM routes within BGGWR under the Alternative C, 529 open routes (445 miles) are considered by resource specialists to have low vehicle use levels. Conversely, 93 open routes (269 miles) have vehicle use levels estimated as moderate and only 31 open routes (92 miles) are estimated to have heavy vehicle use. The combination of 22 closed routes, the low vehicle use levels on 73% of open routes (51% of open route miles and 81% of administrative use only routes (70% administrative route miles), and no observed vehicle use on 10% of open routes (8% of open route miles) in BGGWR would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a minor degree (43 CFR 8342.1 (b)).

**Figure 4.2.3.1b: Alternative C Route Designations by in Big Game General Winter Range
Estimated Vehicle Use Levels (Compared to Alt. A.)**



Long term direct impacts to BGGWR would be a negligible to minor decrease of the effects from wildlife disturbance, displacement, and habitat loss from Alternative A. This is due to low use or no use levels on 83% of open routes and 16% closures and restriction to administrative use only routes. The open road density of 2.0 miles of open routes per square mile exceeds the 1 mile per section road density recommended in the “Guidelines/ Recommendations” for road densities.

The BLM Road Density Analysis indicated that 433,129 acres of BGWR CAPS SCORE 1 and 2 areas, (of all ownerships with any public land ownership (surface or subsurface)) have road densities that exceed 1.5 miles per square mile. This Alternative would require roads to be gated or closed during crucial seasons where they impact big game winter range or parturition areas. Public access in these areas would vary dependent on the depth of winter snow. In greater snow depth years, disturbance impacts to big game would decrease due to reduced public access. In these areas, gating, closures, or reclamation of roads would increase impacts to big game winter range by 69% and 28% respectively when compared to Alternative B and Alternative D. This would directly contribute in the long-term to decreasing the effects of route use, such as wildlife harassment, displacement, and stress to big game on winter ranges to a moderate degree.

Greater Sage-Grouse – Leaks and Nesting Habitat

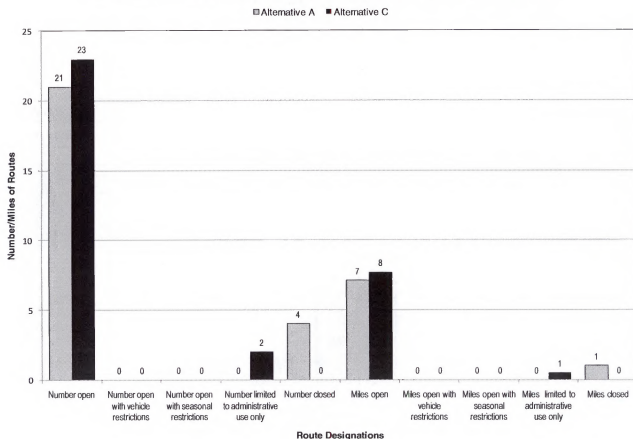
Under the Alternative C, of the 25 routes that are within 0.25 miles of identified sage-grouse leks, 23 routes (7.7 miles) or 92% would be open to all types of motor vehicle use. Conversely,

no routes would be closed and 2 routes (0.5 miles) or 8% would be limited to administrative use only. This would result in 8% more open routes within 0.25 miles of leks in Alternative C than would be open in Alternative A. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be negligible, due to the availability of many open routes near the lek sites (43 CFR 8342.1(b)).

Table O-45: Alternative C Route Designations within ¼-mile of Sage-Grouse Leks (compared to Alt. A)

Alternative C Route Designations within ¼-mile of Sage-Grouse Leks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative C							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	21	84.0%	7.1	87.7%	23	92.0%	2	8.0%	7.7	93.9%	0.6	6.2%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0	0.0%	0.0	0.0%	2	8.0%	2	8.0%	0.5	6.1%	0.5	6.1%
Closed	4	16.0%	1.0	12.3%	0	0.0%	-4	-16.0%	0.0	0.0%	-1	-12.3%

Figure 4.2.3.2a: Alternative C Route Designations within 1/4-mile of Sage Grouse Leks

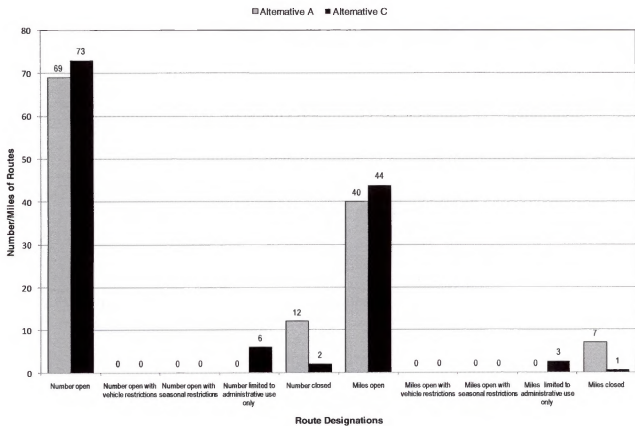


Under the Alternative C, of the 81 routes that are within 0.6 miles of identified sage-grouse leks, 73 routes (44 miles) or 90% would be open to all types of motor vehicle use. Conversely, 6 routes (2.6 miles) or 7% would be limited to administrative use only, while 2 routes (0.5 miles) or 3% would be closed to motor vehicle use. This would result in 5% more open routes within 0.6 miles of leks in Alternative C than would be open in Alternative A. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be negligible, due to the availability of many open routes near the lek sites (43 CFR 8342.1(b)).

Table O-46: Alternative C Route Designations within 0.6 miles of Sage-Grouse Leaks (compared to Alt. A)

Alternative C Route Designations within 0.6 miles of Sage-Grouse Leaks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative C							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	69	85.2%	40.0	85.1%	73	90.1%	4	4.9%	43.9	93.4%	3.9	8.3%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0	0.0%	0.0	0.0%	6	7.4%	6	7.4%	2.6	5.5%	2.6	5.5%
Closed	12	14.8%	7.0	14.9%	2	2.5%	-10	-12.3%	0.5	1.1%	-6.5	-13.8%

Figure 4.2.3.2b: Alternative C Route Designations within 0.6 miles of Sage Grouse Leaks (Compared to Alt. A)



Of the 395 routes that are within nesting habitat (within 2 miles of identified sage-grouse leks), 404 routes (334 miles) or 88% would be open or open with seasonal restrictions. Conversely, 49 routes (29 miles) or 11% would be limited to administrative use only, while 7 routes (2.8 miles) or 2% would be closed to motor vehicle use. This would result in 0.3% fewer open routes within 2 miles of leks in Alternative C than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 484 acres or 0.31% of the total area within 2 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 2-mile nesting habitat, 324 acres would be without routes. This would result in 2% more open route acres in Alternative B than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 3.4 acres or 0.7% of the total route acreage within the 2-mile nesting habitat; 8% less than in Alternative A. This would be a long-term, direct, localized minor reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Of the 579 routes that are within nesting habitat (within 3 miles of identified sage-grouse leks), 505 routes (530 miles) or 87% would be open or open with vehicle restrictions. Conversely, 65 routes (40 miles) or 11% would be limited to administrative use only, while 9 routes (3 miles) or 2% would be closed to motor vehicle use. This would result in 0.4% more open routes within 3 miles of leks in Alternative C than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 777 acres or 0.23% of the total area within 3 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 3-mile nesting habitat, 441 acres would be without routes. This would result in 5% more open route acres in Alternative C than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 3.8 acres or 0.5% of the total route acreage within the 3-mile nesting habitat; 9% fewer than in Alternative A. This would be a long-term, direct, localized minor reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Of the 701 routes that are within nesting habitat (within 4 miles of identified sage-grouse leks), 611 routes (690 miles) or 87% would be open or open with vehicle restrictions. Conversely, 77 routes (48 miles) or 11% would be limited to administrative use only, while 13 routes (4.2 miles) or 2% would be closed to motor vehicle use. This would result in 2% more open routes within 2 miles of leks in Alternative C than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 1,011 acres or 0.17% of the total area within 2 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 2-mile nesting habitat, 577 acres would be without routes. This would result in 7% more open route acres in Alternative C than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 5.1 acres or 0.5% of the total route acreage within the 2-mile nesting habitat; 10% fewer than in Alternative A. This would be a long-term, direct, localized minor reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Of the 81 existing BLM routes (47 miles) within 0.6 miles of sage-grouse leks under the Alternative C, 64 open routes (36 miles) are considered by resource specialists to have low or no observed vehicle use. Conversely, 5 open routes (4.6 miles) have vehicle use levels estimated as moderate and only 4 open routes (3.1 miles) are estimated to have heavy vehicle use. The combination of 2 closed routes and the low or no observed vehicle use on 88% of open routes

(83% of open route miles) and low or no observed vehicle use on 100% of administrative use only routes (100% administrative route miles) within 0.6 miles of sage-grouse leks would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a minor degree (43 CFR 8342.1 (b)).

Greater Sage-Grouse Protection Priority Areas

Under Alternative C, sage-grouse Protection Priority Areas (PPAs) would be allocated and the 402 existing BLM routes (359 miles) that comprise the travel networks within the PPAs would continue to be managed using five existing designation types, with more than 9 out of every 10 existing routes (91%) open to all motorized uses. This would result in only 1% fewer open routes within PPAs in Alternative C than would be open in Alternative A. Additionally, the route density within the PPAs would remain at almost 2.0 open routes per square mile but the increase slightly to 1.9 miles of open routes per square mile. This would be a 1% reduction in open route density and a 4% increase in the density of open route miles in the PPAs from Alternative A. Alternative C would close and restrict to administrative use only 38 routes (19 miles) or 9% of the PPA routes. The long-term, direct, localized effect of these restricted routes on reducing PPA habitat fragmentation is minor, due to the availability of 364 open routes at 340 miles with the route densities that are described above (43 CFR 8342.1(b)).

Greater Sage-Grouse Restoration Areas

Under Alternative C, sage-grouse Restoration Areas (RAs) would be allocated and the 113 existing BLM routes (121 miles) that comprise the travel networks within the RAs would continue to be managed using five existing designation types, with just over 7 out of every 10 existing routes (71%) open to all motorized uses and open with vehicle restrictions. This would result in 26% fewer open routes within RAs in Alternative C than would be open in Alternative A. Additionally; the route density within the RAs would drop to 2.0 open routes per square mile and 2.7 miles of open routes per square mile. This would be a 27% reduction in open route density (9% reduction in the density of open route miles) in the RAs from Alternative A. Alternative C would close and restrict to administrative use only 33 routes (12.8 miles) or 29% of the RA routes. The long-term, direct, localized effect of these restricted routes on reducing RA habitat fragmentation is minor, due in part to the supply of 80 open routes at 108 miles with the route densities that are described above (43 CFR 8342.1(b)).

Greater Sage-Grouse General Habitat

Under Alternative C, the 224 existing BLM routes (200 miles) that comprise the travel networks within the remaining sage-grouse general habitat would be managed using five existing designation types, with just over 9 out of every 10 existing routes (91%) open to all motorized uses and open with vehicle restrictions. This would result in 16% more open routes within general habitat in Alternative C than would be open in Alternative A. Additionally, the route density within the general habitat would increase to 2.2 open routes per square mile and 2.0 miles of open routes per square mile. This would be a 21% increase in open route density (a 23% increase in the density of open route miles) in the general habitat from Alternative A. Alternative C would close and restrict to administrative use only 20 routes (15.5 miles) or 9% of the general habitat routes. The long-term, direct, localized effect of these restricted routes on reducing general habitat fragmentation is negligible, and in fact, offset to a minor degree due to the 21%

increase from Alternative A in the supply of 204 open routes at 184 miles with the route densities that are described above (43 CFR 8342.1(b)).

Overall, this Alternative would provide negligible to minor protection of sage-grouse leks and nesting habitat from habitat fragmentation and disturbance from travel routes within the Travel Management Areas (TMAs). There would be a minor increase in sage-grouse habitat protected in this Alternative compared to Alternative A. Lek habitat would receive less protection and nesting habitat would receive slightly greater protection than Alternative A. The direct, long term, local impacts to sage-grouse would continue to occur in the majority of habitat.

Prairie Dogs

White-tailed Prairie Dogs

Under Alternative C, of the 19 routes that are within 0.5 miles of identified white-tailed prairie dog "towns", 19 routes (7.2 miles) or 100% would be open to all types of motor vehicle use. This would result in 16% fewer open routes within 0.5 miles of prairie dog "towns" from Alternative A. No routes would be limited to administrative use only or closed to motor vehicle use. The long-term, direct, localized effect of these route designations on increasing habitat fragmentation and/or the potential for wildlife harassment would be minor, due to increased public access near the "town" sites (43 CFR 8342.1(b)).

Black-tailed Prairie Dogs

Under Alternative C, of the 90 routes that are within 0.5 miles of identified black-tailed prairie dog "towns", 57 routes (37.9 miles) or 63% would be open to all types of motor vehicle use. This would result in 27% fewer open routes within 0.5 miles of prairie dog "towns" from Alternative A. Only 33 routes (21.3 mile) or 37% would be limited to administrative use only and no routes would be closed to motor vehicle use. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be minor, due to limiting public access to only 57 open routes near the "town" sites (43 CFR 8342.1(b)).

There would be negligible to minor benefits to prairie dog habitat with this Alternative. The long-term, direct, and localized impacts to habitat fragmentation and prairie dog harassment would be reduced by the closure to motor vehicle use of 16-27% of routes when compared to Alternative A.

Summary Alternative C

Impacts would be the same as described under Alternative A, except there would be 825 miles of open routes and 5.9 miles of closed routes. Alternative C is therefore, less restrictive than Alternative A.

O.6.2.9.6 *Alternative D*

Impacts would be similar to impacts from impacts common to all and Alternative B, except for species or habitat specific impacts presented below.

Big Game Species

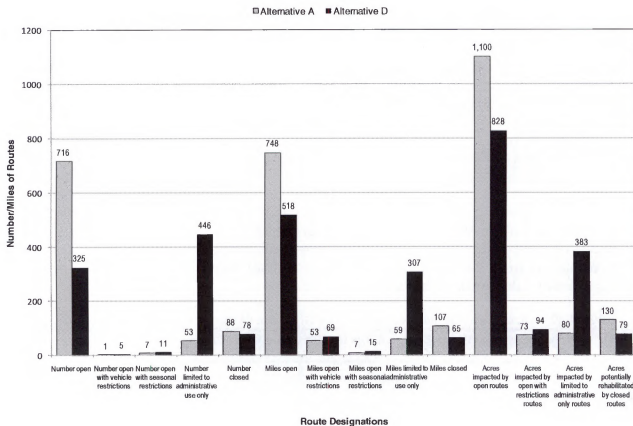
Under Alternative D, the 865 existing BLM routes (974 miles) that comprise the travel networks within big game general winter range (BGGWR) would continue to be managed using the five existing designations shown in **Error! Reference source not found.** and Figure 4.2.4.1a below, with 4 out of every 10 existing routes (341 routes or about 40%) open to all motorized uses or open with special seasonal or vehicular restrictions. This would result in 44% fewer open routes in Alternative D than would be open in Alternative A. Additionally; the route density within the BGGWR would be reduced by 53% for the long-term to 0.8 open routes per square mile and reduced by 26% to 1.4 miles of open routes per square mile. The footprint (actual area of surface disturbance) of open routes affects approximately 922 acres or 0.3% of the 275,839 acres of BGGWR within the TMAs. In other words, for every 1 acre of route footprint within the BGGWR, 298 acres would be without routes.

Alternative D proposes closures and restrictions to administrative use only on a combined 524 routes at 372 miles, a 44% increase from these designations in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing BGGWR habitat fragmentation is moderate, due to the continued availability and use of 341 open routes (at 601 miles) with the route densities that are described above.

Table O-47: Alternative D Route Designations for Big Game Winter Range (compared to Alt. A)

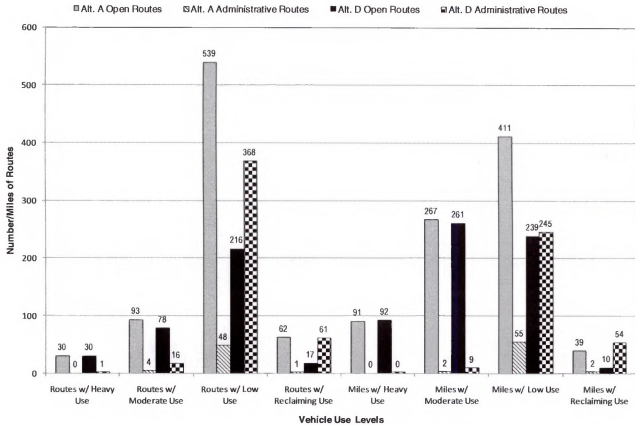
Alternative D Route Designations for Big Game Winter Range (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative D							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	716	83%	747.6	76.8%	325	37.6%	-391	-45.2%	517.5	53.1%	-230.1	-23.6%
Open with vehicle restrictions	1	0.1%	52.7	5.4%	5	0.6%	4	0.5%	68.7	7.1%	16	1.6%
Open with seasonal restrictions	7	0.8%	7.2	0.7%	11	1.3%	4	0.5%	15.1	1.6%	7.9	0.8%
Limited to administrative use only	53	6.1%	59	6.1%	446	51.6%	393	45.4%	307.2	31.5%	248.2	25.5%
Closed	88	10.2%	107.4	11%	78	9.0%	-10	-1.2%	65.2	6.7%	-42.2	-4.3%
Average open routes per square mile (density)	1.7	<div></div>	1.9	<div></div>	0.8	<div></div>	-0.9	-52.9%	1.4	<div></div>	-0.5	-25.5%
Route- Acres	Acres impacted by routes		Percent of total route acreage		Acres impacted by routes		Percent of total route acreage		Acres change from Alt. A		% change from Alt. A	
Open	1100.3		79.6%		827.8		59.9%		-272.5		-19.7%	
Open with restrictions	73.4		5.3%		93.8		6.8%		20.4		1.5%	
Limited to administrative use only	79.6		5.8%		383.0		27.7%		303.4		21.9%	
Closed	129.7		9.4%		78.7		5.7%		-51.0		-3.7%	
Percent of open route acreage	0.4%				0.3%							
Ratio of open route acres to unrouted acres	1:234				1:298							

Figure 4.2.4.1a: Alternative D Route Designations in Big Game General Winter Range (Compared to Alt. A)



Of the existing BLM routes within BGGWR under the Alternative D, 216 open routes (239 miles) are considered by resource specialists to have low vehicle use levels as shown in Figure 4.2.4.1b below. Conversely, 78 open routes (261 miles) have vehicle use levels estimated as moderate and only 30 open routes (92 miles) are estimated to have heavy vehicle use. The combination of 78 closed routes and the low vehicle use levels on 63% of open routes (40% of open route miles) and 83% of administrative use only routes (80% administrative route miles) in BGGWR would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a moderate degree (43 CFR 8342.1 (b)).

**Figure 4.2.4.1b: Alternative D Route Designations by in Big Game General Winter Range
Estimated Vehicle Use Levels (Compared to Alt. A.)**



Overall, this alternative would provide moderate protection of big game winter range. The direct, local, and long term effects of route use on big game winter range such as wildlife harassment, human-caused animal mortality, stress, or displacement of individual animals would be reduced to a moderate degree on big game winter range. Route densities would be reduced to 1.4 miles per square mile (26% less) and 44% fewer open routes versus Alternative A. The open road density of 1.4 miles of open routes per square mile is 40% above the 1 mile per section road density recommended in the "Guidelines/ Recommendations" for road densities. (Canfield, J.E. et. al. 1999. Ungulates. in G. Joslin and H. Youmans, coordinators. Effects of recreation on Rocky Mountain Wildlife: A review for Montana. Committee on Effects of Recreation on Wildlife, MT. Chapter of the Wildlife Society. Pg. 6.12).

The BLM Road Density Analysis indicated that 595,259 acres of BGWR CAPS SCORE 1 and 2 areas, (of all ownerships with any public land ownership (surface or subsurface)) have road densities that exceed 1.0 miles per square mile. This alternative would require roads to be gated or closed during crucial seasons where they impact big game winter range or parturition areas. Public access in these areas will vary dependent on the depth of winter snow. In greater snow depth years, disturbance impacts to big game will decrease due to reduced public access. In these areas, gating, closures, or reclamation of roads would increase impacts to big game winter range by 57% compared to Alternative B and reduce impacts by 28% when compared to Alternative C. This would directly contribute in the long-term to decreasing the effects of route use, such as

wildlife harassment, displacement, and stress to big game on winter ranges to a moderate degree.

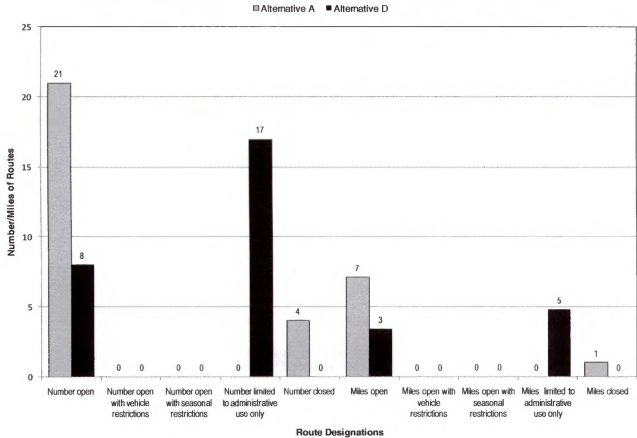
Greater Sage-Grouse – Leaks and Nesting Habitat

Under the Alternative D, of the 25 routes that are within 0.25 miles of identified sage-grouse leaks, only 8 routes (3.4 miles) or 32% would be open to all types of motor vehicle use. Conversely, no routes would be closed to motor vehicle use and 17 routes (4.8 miles) or 68% would be limited to administrative use only. This would result in 52% fewer open routes within 0.25 miles of leaks in Alternative D than would be open in Alternative A.

Table O-48: Alternative D Route Designations within ¼-mile of Sage-Grouse Leaks (compared to Alt. A)

Alternative D Route Designations within ¼-mile of Sage-Grouse Leaks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative D							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	21	84.0%	7.1	87.7%	8	32.0%	-13	-52.0%	3.4	41.5%	-3.7	-46.2%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0	0.0%	0.0	0.0%	17	68.0%	17	68.0%	4.8	58.5%	4.8	58.5%
Closed	4	16.0%	1.0	12.3%	0	0.0%	-4	-16.0%	0.0	0.0%	-1	-12.3%

Figure 4.2.4.2a: Alternative D Route Designations within 1/4-mile of Sage Grouse Leks

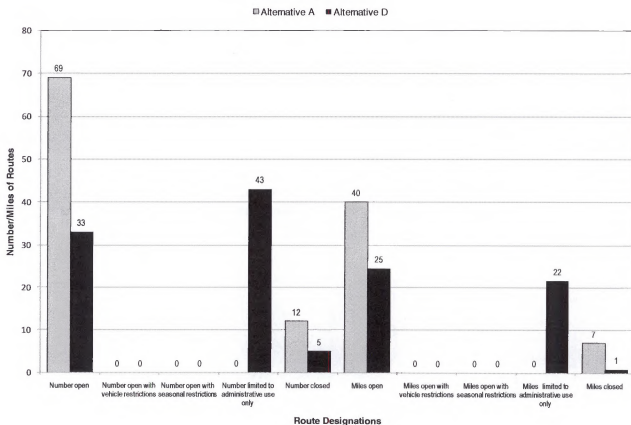


Under the Alternative D, of the 81 routes that are within 0.6 miles of identified sage-grouse, 33 routes (12.9 miles) or 46% would be open to all types of motor vehicle use. Conversely, 5 routes (0.9 miles) or 6% would be closed and 43 routes (21.6 miles) or 53% would be limited to administrative use only. This would result in 44% fewer open routes within 0.6 miles of leks in Alternative D than would be open in Alternative A. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be minor to moderate, due to the limited public motorized access opportunities near the lek sites (43 CFR 8342.1(b)).

Table O-49: Alternative D Route Designations within 0.6 miles of Sage-Grouse Leaks (compared to Alt. A)

Alternative D Route Designations within 0.6 miles of Sage-Grouse Leaks (compared to Alt. A)												
Potential Route Designations	Alternative A				Alternative D							
	Routes	Percent	Miles	Percent	Routes	Percent	# Δ from Alt. A	% Δ from Alt. A	Miles	Percent	# Δ from Alt. A	% Δ from Alt. A
Open	69	85.2%	40.0	85.1%	33	40.7%	-36	-44.4%	24.5	52.1%	-15.5	-33.0%
Open with vehicle restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Open with seasonal restrictions	0	0.0%	0.0	0.0%	0	0.0%	0	0.0%	0.0	0.0%	0	0.0%
Limited to administrative use only	0	0.0%	0.0	0.0%	43	53.1%	43	53.1%	21.6	46.0%	21.6	46.0%
Closed	12	14.8%	7.0	14.9%	5	6.2%	-7	-8.6%	0.9	1.9%	-6.1	-13.0%

Figure 4.2.4.2b: Alternative D Route Designations within 0.6 miles of Sage Grouse Leaks (Compared to Alt. A)



Of the 395 routes that are within nesting habitat (within 2 miles of identified sage-grouse leks), 160 routes (215 miles) or 41% would be open or open with restrictions. Conversely, 209 routes (141 miles) or 53% would be limited to administrative use only, while 26 routes (10.3 miles) or 7% would be closed to motor vehicle use. This would result in 48% fewer open routes within 2 miles of leks in Alternative D than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 338 acres or 0.21% of the total area within 2 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 2-mile nesting habitat, 465 acres would be without routes. This would result in 26% fewer open route acres in Alternative D than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 12.8 acres or 2.4% of the total route acreage within the 2-mile nesting habitat; 6% fewer than in Alternative A. This would be a long-term, direct, localized moderate reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Of the 579 routes that are within nesting habitat (within 3 miles of identified sage-grouse leks), 240 routes (349 miles) or 41% would be open or open with seasonal restrictions. Conversely, 299 routes (197 miles) or 52% would be limited to administrative use only, while 40 routes (28.5 miles) or 7% would be closed to motor vehicle use. This would result in 45% fewer open routes within 3 miles of leks in Alternative D than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 555 acres or 0.16% of the total area within 3 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 3-mile nesting habitat, 618 acres would be without routes. This would result in 22% fewer open route acres in Alternative D than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 36.6 acres or 4% of the total route acreage within the 3-mile nesting habitat; 5% fewer than in Alternative A. This would be a long-term, direct, localized minor to moderate reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Of the 701 routes that are within nesting habitat (within 4 miles of identified sage-grouse leks), 285 routes (451 miles) or 41% would be open or open with vehicle restrictions. Conversely, 350 routes (236 miles) or 51% would be limited to administrative use only, while 58 routes (48 miles) or 8% would be closed to motor vehicle use. This would result in 43% fewer open routes within 4 miles of leks in Alternative D than would be open in Alternative A. The actual footprint (area of surface disturbance) of open routes affects approximately 726 acres or 0.12% of the total area within 4 miles of sage-grouse leks. In other words, for every 1 acre of route footprint within the 4-mile nesting habitat, 803 acres would be without routes. This would result in 20% fewer open route acres in Alternative D than in Alternative A. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 57 acres or 5% of the total route acreage within the 4-mile nesting habitat; 5% fewer than in Alternative A. This would be a long-term, direct, localized minor to moderate reduction of fragmented habitat and the potential for wildlife harassment (43 CFR 8342.1(b)).

Of the 81 existing BLM routes (47 miles) within 0.6 miles of sage-grouse leks under the Alternative D, 24 open routes (16.8 miles) are considered by resource specialists to have low vehicle use levels. Conversely, 5 open routes (4.6 miles) have vehicle use levels estimated as moderate and only 4 open routes (3 miles) are estimated to have heavy vehicle use. The combination of 5 closed routes and the low vehicle use levels on 73% of open routes (69% of

open route miles) and low use or no observed use on 100% of administrative use only routes (100% administrative route miles) within 0.6 miles of sage-grouse leks would directly contribute, in the long-term, to lessening of the effects of route use, such as wildlife harassment, human-caused animal mortality or displacement of individual animals to a moderate to major degree (43 CFR 8342.1 (b)).

Greater Sage-Grouse Protection Priority Areas (PPAs)

Under Alternative D, sage-grouse Protection Priority Areas (PPAs) would be allocated and the 402 existing BLM routes (359 miles) that comprise the travel networks within the PPAs would continue to be managed using five existing designation types, with only 4 out of every 10 existing routes (40%) open to all motorized uses. This would result in 52% fewer open routes within PPAs in Alternative D than would be open in Alternative A. Additionally, the route density within the PPAs would drop to 0.9 open routes per square mile and 1.1 miles of open routes per square mile. This would be a 56% reduction in open route density (37% reduction in the density of open route miles) in the PPAs from Alternative A. Alternative D would close and restrict to administrative use only 241 routes (153 miles) or 60% of the PPA routes. The long-term, direct, localized effect of these restricted routes on reducing PPA habitat fragmentation is moderate, due in part to the much smaller supply of 161 open routes at 206 miles with the route densities that are described above (43 CFR 8342.1(b)).

Greater Sage-Grouse Restoration Areas

Under Alternative D, sage-grouse Restoration Areas (RAs) would be allocated and the 113 existing BLM routes (121 miles) that comprise the travel networks within the RAs would continue to be managed using five existing designation types, with almost 4 out of every 10 existing routes (39%) open to all motorized uses and open with restrictions. This would result in 58% fewer open routes within RAs in Alternative D than would be open in Alternative A. Additionally, the route density within the RAs would drop to 1.1 open routes per square mile and 2.2 miles of open routes per square mile. This would be a 60% reduction in open route density (25% reduction in the density of open route miles) in the RAs from Alternative A. Alternative D would close and restrict to administrative use only 69 routes (32 miles) or 61% of the RA routes. The long-term, direct, localized effect of these restricted routes on reducing RA habitat fragmentation is moderate, due in part to the much smaller supply of 44 open routes at 89 miles with the route densities that are described above (43 CFR 8342.1(b)).

Greater Sage-Grouse General Habitat

Under Alternative D, the 224 existing BLM routes (200 miles) that comprise the travel networks within the remaining sage-grouse general habitat areas would continue to be managed using five existing designation types, with over 5 out of every 10 existing routes (56%) open to all motorized uses and open with restrictions. This would result in 19% fewer open routes within general habitat in Alternative D than would be open in Alternative A. Additionally, the route density within the general habitat would drop to 1.4 open routes per square mile and 1.5 miles of open routes per square mile. This would be a 26% reduction in open route density (12% reduction in the density of open route miles) in the general habitat from Alternative A. Alternative D would close and restrict to administrative use only 99 routes (67 miles) or 44% of the general habitat routes. The long-term, direct, localized effect of these restricted routes on reducing general habitat fragmentation is moderate, due in part to the much smaller supply of

125 open routes at 133 miles with the route densities that are described above (43 CFR 8342.1(b)).

Overall, this alternative would provide moderate to major protection of sage-grouse leks and nesting habitat from habitat fragmentation and disturbance from travel routes within the Travel Management Areas (TMAs). The direct, long-term, local impacts to sage-grouse would be reduced to a moderate to major degree when compared to Alternative A.

Prairie Dogs

White-tailed Prairie Dogs

Under the Alternative D, of the 19 routes that are within 0.5 miles of identified white-tailed prairie dog "towns", 10 routes (3.4 miles) or 53% would be open to all types of motor vehicle use. This would result in 32% fewer open routes within 0.5 miles of prairie dog "towns" from Alternative A. Only 8 routes (3.5 mile) or 42% would be limited to administrative use only and 1 route (0.3 miles) or 5% would be closed to motor vehicle use. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or the potential for wildlife harassment would be moderate, due to limiting public access to only 10 open routes near the "town" sites (43 CFR 8342.1(b)).

Black-tailed Prairie Dogs

Under the Alternative D, of the 90 routes that are within 0.5 miles of identified black-tailed prairie dog "towns", 35 routes (28.1 miles) or 39% would be open to all types of motor vehicle. This would result in 51% fewer open routes within 0.5 miles of prairie dog "towns" from Alternative A. Over half of the total routes (53 routes (30.8 mile) or 59%) would be limited to administrative use only and 2 routes (0.4 miles) or 2% would be closed to motor vehicle use. The long-term, direct, localized effect of these route designations on reducing habitat fragmentation and/or minimizing the potential for wildlife harassment would be minor to moderate, due to limiting public access to only 35 open routes near the "town" sites (43 CFR 8342.1(b)).

There would be minor to moderate benefits to prairie dog habitat with this alternative. The long-term, direct, and localized impacts to habitat fragmentation and prairie dog harassment would be reduced by the closure to motor vehicle use of 2-5% of routes and administrative use only restrictions on 59% of the routes or 51% fewer open routes when compared to Alternative A.

O.6.2.10 Fisheries Habitat and Special Status Species

O.6.2.10.1 Impacts Common to All Alternatives

Motorized and mechanized modes of travel on BLM-administered land (outside of established TMAs) would be limited to existing roads and trails. Site specific travel planning would be initiated if resources were impacted (not meeting Land Health Standards, excessive erosion). In all alternatives, the BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. Prohibiting off road travel reduces erosion and protects water quality and fisheries habitat. General impacts associated with travel management, pertaining to fisheries resources, are related to: weed infestations that degrade upland and riparian health; erosion and un-natural drainage that results in sedimentation and other non-point source pollution to streams.

0.6.2.10.2 Alternative A

The primary issues related to fisheries are the preservation of water quality, erosion, and drainage from road surfaces into stream channels. More specifically, the existence of routes with their areas of surface disturbance, as well as the use of motor vehicles on those routes that drain into with water courses and/or are through sensitive soils constitutes a primary activity that has the potential to adversely affect fisheries. Relative to travel management, this can occur by improper placement of routes; inappropriate behavior by visitors in these areas; intense rainfall events or unauthorized off-road vehicle use. Therefore, the supply and spatial extent of travel access networks for motor vehicles is an important component for managing or providing various levels of protection for fisheries.

The species of concern with regard to route designations is Yellowstone cutthroat trout, which, within the context of this analysis, only occur in the Pryor TMA. The analysis results are derived from looking at all routes that underwent route evaluation that are within .5 miles (in/through/to/proximate) of the YCT Suitable and YCT Conservation habitat areas depicted in the BLM's GIS data. Only one route (PM1088 at 0.14 miles within the Pryor TMA) was apparently in or very close to a YCT Conservation population. The No Action Alternative and Alternative B proposed closure for the route, while Alternative C proposed to open to all vehicles and Alternative D proposed administrative uses only for the route. Topographic features associated with this route negate impacts to YCT habitat.

Table O-50: Alternative A: Number of Routes Associated with Yellowstone cutthroat trout habitat

Alternative A: Number of Routes Associated with Yellowstone cutthroat trout habitat				
Potential Route Designations	Alternative A			
	Within 0.5 miles from YCT habitat)	% of routes within 0.5 miles of YCT habitat	Within 0.5 miles from YCT habitat and in sensitive soils	% of routes within 0.5 miles of YCT habitat in soils
Open	14	61	6	100
Open with vehicle restrictions	0	0	0	0
Open with seasonal restrictions	0	0	0	0
Limited to administrative use only	0	0	0	0
Closed	9	39	0	0

Routes in, through, crossing, or proximate within 0.5 miles of YCT suitable habitat and conservation population habitat: Under the No Action Alternative, of the 23 routes that are in or through or proximate within 0.5 miles of YCT habitat, 10.2 miles (63%) on 14 routes would be open to all types of motor vehicle use, while no routes would be limited to administrative use only; and 5.9 miles (37%) on 9 routes would be closed. In the long-term, 6 out of every 10 miles of existing BLM routes in or through or within 0.5 miles of YCT habitat would remain available for public access in the No Action Alternative. With 63% of existing routes potentially open and 37% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion and drainage from road surfaces into stream channels and

wetlands with the potential for direct and indirect impacts to YCT habitat would be moderate (43 CFR 8342.1(a)(b)(d)).

Routes in, through, crossing, or proximate within 0.5 miles of YCT suitable habitat and conservation population habitat in severe/moderate water erosion rated soils: Of the 6 routes that are in, through or within 0.5 miles of YCT habitat that are also in severe or moderate water erosion rated soils, 7.1 miles on 6 routes, or 100% would be open to all vehicle uses. No routes would be limited to administrative use only or closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes would be approximately 12 acres in these areas. The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 0 acres. In the long-term, 10 out of every 10 existing BLM routes in, through or within 0.5 miles of YCT habitats in these soil types would remain available for public access in the No Action Alternative. With 100% of existing routes potentially open and 0% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion and drainage from road surfaces into stream channels and wetlands with the potential for direct and indirect impacts to YCT habitat would be major (43 CFR 8342.1(a)(b)(d)).

Each route is unique in its potential to impact fisheries resources and quantitative data is not available specific to each route, however, assumptions lead to the conclusion that more open routes adjacent to fisheries resources will lead to degraded fisheries habitat from sedimentation/erosion and invasive species infestations. Impacts from travel route designations are addressed specifically when riparian areas are monitored for functionality. It should be noted, there is no evidence that any routes analyzed above are having adverse impacts on fisheries resources, this analysis depicts potential impacts from route designations.

O.6.2.10.3 Alternative B

In action alternatives (B, C, D) the BLM established 11 Travel Management Areas (TMAs) to minimize impacts and provide a spectrum of motorized and non-motorized recreational opportunities. In each TMA, motorized and mechanized travel would be limited to designated roads and trails, except in designated open areas (ex: South Hills Motorcycle Area). Routes on BLM lands but outside of TMAs would be managed as in Alternative A, "limited to existing roads and trails".

An implementation and monitoring plan would be initiated for the TMAs within 3-5 years of the ROD. The plan would include signing, mapping, information and education, and monitoring of impacts associated with continued use on designated open routes, etc. Implementation plan would also identified criteria for route variances specific to each TMA. In this plan, the BLM may close or restore unauthorized, user created roads and trails to prevent resource damage. The travel plan would also allow for, upon project completion, roads used for commercial or administrative access on BLM-administered lands would be reclaimed, unless the route provides specific benefits for public access, minimizes impacts to the resource and would be considered on a case-by-case basis.

The following analysis determines the impacts of potential water pollution sources associated with routes in proximity to different types of water and fisheries resources and when in areas

where severe or moderate erosion rated soils were identified. These characteristics were determined to have the most potential to impact water resources, pertaining to travel management.

Table O-51: Alternative B: Number of Routes Associated with Yellowstone cutthroat trout habitat (compared to Alt. A)

Alternative B: Number of Routes Associated with Yellowstone cutthroat trout habitat (compared to Alt. A)										
	Alternative A				Alternative B					
Potential Route Designations	Within 0.5 miles	% of routes within 0.5 miles	Within 0.5 miles and in sensitive soils	% of routes within 0.5 miles and in soils	Within 0.5 miles	% of routes within 0.5 miles	% Δ from Alt. A	Within 0.5 miles and in sensitive soils	% of routes within 0.5 miles and in soils	% Δ from Alt. A
Open	14	61	6	100	4	17	-44	2	33	-67
Open with vehicle restrictions	0	0	0	0	0	0	0	0	0	0
Open with seasonal restrictions	0	0	0	0	1	4	4	1	17	17
Limited to administrative use only	0	0	0	0	2	9	9	0	0	0
Closed	9	39	0	0	16	70	30	3	50	50

Routes in, through, crossing, proximate within 0.5 miles of YCT habitat: Under alternative B, of the 23 routes (16.1 miles) that are in or through or proximate within 0.5 miles of YCT habitat, 4 routes with 4.9 miles (30%) would be open to all types of motor vehicle use, with 1 route at 2 miles (12%) open with seasonal restrictions (for a total of 21% fewer open miles (3.3 miles) than in alternative A). Additionally, 2 routes with 1.2 miles (8%) would be limited to administrative use only (7% more miles open than alternative A) and 16 routes with 8 miles (50%) would be closed (13% more than Alternative A). In the long-term, 6.9 miles out of 16.1 existing miles in or through or proximate within 0.5 miles of YCT habitat would remain available for public access in alternative B. With 43% of existing route miles potentially open and 57% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion and drainage from road surfaces into stream channels and wetlands with the potential for direct and indirect impacts to YCT habitat would be moderate, speaking of miles of routes (43 CFR 8342.1(a)(d)). As described in alternative A, the actual impacts to YCT habitat and fish populations cannot be quantified due to minimal data concerning erosion and input to these aquatic systems.

Routes in, through, crossing, proximate within 0.5 miles of YCT habitat in severe/moderate water erosion rated soils: Of the 6 routes (7.1 miles) that are in, through or within 0.5 miles of YCT habitat that are also in severe or moderated water erosion rated soils, 2 routes with 2.9 miles or (41%) would be open to all vehicle uses and 1 route at 2 miles (28%) would be open with seasonal restrictions (for a total of 18% fewer miles than Alternative A). Additionally, no routes would be limited to administrative use only (same as Alternative A) and 3 routes with 2.2

miles (31%) would be closed to motor vehicle use (31% more miles than Alternative A). The actual footprint (area of surface disturbance) of open routes would be approximately 9.4 acres in these areas (21% fewer than Alternative A). The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 2.7 acres (22% more than Alternative A). In the long-term, 5 out of every 10 existing BLM routes in, through or within 0.5 miles of YCT habitat in these soil types would remain available for public access in Alternative B. With 69% of existing routes potentially open and 31% potentially closed to motor vehicle use, the localized, long-term effect of these route restrictions on reducing erosion and drainage from road surfaces into stream channels and wetlands with the potential for direct and indirect impacts to YCT habitat would be moderate (43 CFR 8342.1(a)(d)).

The determination, by this analysis, only reflects the relative impacts of open versus closed route miles, as opposed to the detailed potential impacts that may arise from issues to resources by route designations. Each route is unique in its potential to impact fisheries resources and quantitative data is not available specific to each route, however, assumptions lead to the conclusion that more open routes adjacent to fisheries resources will lead to degraded fisheries habitat from sedimentation/erosion and invasive species infestations. Impacts from travel route designations are addressed specifically when riparian areas are monitored for functionality.

O.6.2.10.4 Alternative C

Alternative C designates the most open routes in the established Travel Management Areas and continues to restrict motorized vehicle use to existing roads and trails in the rest of the field office. The following analysis determines the impacts of potential water pollution sources associated with routes in proximity to different types of water and fisheries resources and when in areas where severe or moderate erosion rated soils were identified. These characteristics were determined to have the most potential to impact water resources, pertaining to travel management.

Table O-52: Alternative C: Number of Routes Associated with Yellowstone cutthroat trout habitat (compared to Alt. A)

Alternative C: Number of Routes Associated with Yellowstone cutthroat trout habitat (compared to Alt. A)										
	Alternative A				Alternative C					
Potential Route Designations	Within 0.5 miles	% of routes within 0.5 miles	Within 0.5 miles and in sensitive soils	% of routes within 0.5 miles and in soils	Within 0.5 miles	% of routes within 0.5 miles	% Δ from Alt. A	Within 0.5 miles and in sensitive soils	% of routes within 0.5 miles and in soils	% Δ from Alt. A
Open	14	61	6	100	22	96	35	6	100	0
Open with vehicle restrictions	0	0	0	0	0	0	0	0	0	0
Open with seasonal restrictions	0	0	0	0	0	0	0	0	0	0
Limited to administrative use only	0	0	0	0	1	4	4	0	0	0
Closed	9	39	0	0	0	0	-39	0	0	0

Routes in, through, crossing, proximate within 0.5 miles of YCT habitat: Under Alternative C, of the 23 routes (16.1 miles) that are in or through or within 0.5 miles of YCT habitat, 22 routes with 15.6 miles (97%) would be open to all types of motor vehicle use (34% more miles than in Alternative A). Additionally, 1 route at 0.5 miles (3%) would be limited to administrative use only and no routes would be closed (63% fewer miles than Alternative A). In the long-term, with 97% of BLM route miles in or through or within 0.5 miles of YCT habitat remaining available for public access in Alternative C, the localized, long-term effect on reducing erosion and drainage from road surfaces into stream channels and wetlands with the potential for direct and indirect impacts to fisheries values would be major (43 CFR 8342.1(a)(d)).

Routes in, through, crossing, proximate within 0.5 miles of YCT habitat in severe/moderate water erosion rated soils: Of the 6 routes (7.1 miles) that are in, through or within 0.5 miles of YCT habitat that are also in severe or moderated water erosion rated soils, 6 routes (7.1 miles) or 100% would be open to all vehicle uses (same as Alternative A). Additionally, no routes would be limited to administrative use only or closed to motor vehicle use (same as Alternative A). The actual footprint (area of surface disturbance) of open routes would be approximately 12.1 acres in these areas (same as Alternative A). The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 0 acres (same as Alternative A). The impacts for Alternative C would be the same as Alternative A.

The determination, by this analysis, only reflects the relative impacts of open versus closed route miles, as opposed to the detailed potential impacts that may arise from issues to resources by route designations. Each route is unique in its potential to impact fisheries resources and quantitative data is not available specific to each route, however, assumptions lead to the conclusion that more open routes adjacent to fisheries resources will lead to degraded fisheries habitat from sedimentation/erosion and invasive species infestations. Impacts from travel route designations are addressed specifically when riparian areas are monitored for functionality.

O.6.2.10.5 Alternative D

Impacts would be the same as described in impacts from in Alternative B. Based on assumptions, the more route miles open will have more impacts to fisheries resources.

Under Alternative D, there would be 624 miles of open routes (62% of all route miles). This Alternative closes or limits to administrative access more route miles than alternatives A and C, but less than Alternative B. Alternative A designates 83% of route miles as open, Alternative B designates 35% of route miles as open and Alternative C designates 90% of route miles as open.

Table O-53: Alternative D: Number of Routes Associated with Yellowstone cutthroat trout habitat (compared to Alt. A)

Alternative D: Number of Routes Associated with Yellowstone cutthroat trout habitat (compared to Alt. A)										
	Alternative A				Alternative D					
Potential Route Designations	Within 0.5 miles	% of routes within 0.5 miles	Within 0.5 miles and in sensitive soils	% of routes within 0.5 miles and in soils	Within 0.5 miles	% of routes within 0.5 miles	% Δ from Alt. A	Within 0.5 miles and in sensitive soils	% of routes within 0.5 miles and in soils	% Δ from Alt. A
Open	14	61	6	100	5	22	-39	2	33	-67
Open with vehicle restrictions	0	0	0	0	0	0	0	0	0	0
Open with seasonal restrictions	0	0	0	0	1	4	4	1	17	17
Limited to administrative use only	0	0	0	0	12	52	52	2	33	33
Closed	9	39	0	0	5	22	-17	1	17	17

Routes in, through, crossing, proximate within 0.5 miles of YCT habitat: Under Alternative D, of the 23 routes that are in or through or within 0.5 miles of YCT habitat, 5 routes with 6 miles (37%) would be open to all types of motor vehicle use, with 1 route at 2 miles (12%) open with seasonal restrictions (for a total of 12% fewer open miles than in Alternative A). Additionally, 12 routes with 6.8 miles (43%) would be limited to administrative use only and 5 routes with 1.2 miles (8%) would be closed (29% fewer miles than Alternative A). In the long-term, 8 miles of existing BLM routes in or through or within 0.5 miles of YCT habitat would remain available for public access in Alternative D. With 49% of existing route miles potentially open and 51% potentially limited to administrative use only or closed to motor vehicle use, the localized, long-term effect on reducing erosion and drainage from road surfaces into stream channels and wetlands with the potential for direct and indirect impacts to water values would be moderate to major (43 CFR 8342.1(a)(d)).

Routes in, through, crossing, proximate within 0.5 miles of YCT habitat in severe/moderate water erosion rated soils: Of the 5 routes (7.1 miles) that are in, through or within 0.5 miles of YCT habitat that are in severe or moderated water erosion rated soils, 2 routes with 2.9 miles

(41% would be open to all vehicle uses and 1 route at 2 miles (28%) would be open with seasonal restrictions (for a total of 31% fewer miles open than Alternative A). Additionally, 1 route at 1.8 miles (25%) would be limited to administrative use only and 1 route at 0.4 miles (6%) would be closed to motor vehicle use. The actual footprint (area of surface disturbance) of open routes would be approximately 9.4 acres in these areas (22% fewer than Alternative A). The footprint for routes that would be closed (and eventually restored to a more natural condition) would be 0.5 acres (4% more than Alternative A). In the long-term, 4.9 out of every 7.1 miles (69%) of existing BLM routes in, through or within 0.5 miles of YCT habitat in these soil types would remain available for public access in Alternative D. With 69% of existing route miles potentially open and 31% potentially limited to administrative use only or closed, the localized, long-term effect of these route restrictions on reducing erosion and drainage from road surfaces into stream channels and wetlands with the potential for direct and indirect impacts to YCT habitat would be moderate to major (43 CFR 8342.1(a)(d)).

O.6.2.11 Wild Horses and Burros

The primary impact issue for wild horses in the Pryor Mountain area is the long-term viability of the herd. Travel management factors that can adversely impact herd viability include, roads open too early in spring and year-round; use of open routes too early in the spring creating greater resource damage as users drive around snowbanks, down trees, and muddy sections; and human presence disturbing herds during foaling season, potentially affecting foaling rates. Additionally, existing routes in the herd area are often widened or new routes are created during inclement weather or following winter thaw and tree fall.

O.6.2.11.1 Alternative A

Under the No Action Alternative, of the 16 routes that are within the Pryor Mountain TMA, 8 routes (29.3 miles) or 50% would be open to all types of motor vehicle use. No routes would be open with special restrictions and 1 route (2.4 miles) or 6% would be limited to administrative use only. Additionally, 7 routes (6.9 mile) or 44% would be closed to motor vehicle use. As such, the long-term, direct, localized effect of these route designations with regard to reducing impacts to the viability of the wild horse herd and/or minimizing the potential for harassment of the herd would be minor to moderate, due to the open availability of 50% of the routes associated with the herd area (43 CFR 8342.1(a)(d)).

O.6.2.11.2 Alternative B

Under the Alternative B, of the 16 routes that are within the Pryor Mountain TMA, 2 routes (17.6 miles) or 13% would be open to all types of motor vehicle use. This would result in 38% fewer open routes in Alternative B than would be open in Alternative A. While 3 routes (6.7 miles) or 19% would be open with special restrictions (19% more than in Alternative A), only 2 routes (3.8 miles) or 13% would be limited to administrative use only (6% more than in Alternative A) and 9 routes (10.6 miles) or 56% would be closed to motor vehicle use (13% more than in Alternative A). As such, the long-term, direct, localized effect of these route designations with regard to reducing impacts to the viability of the wild horse herd and/or minimizing the potential for harassment of the herd would be moderate, due to the open availability of 31% of the routes associated with the herd area (43 CFR 8342.1(a)(d)).

O.6.2.11.3 Alternative C

Under the Alternative C, of the 16 routes that are within the Pryor Mountain TMA, 7 routes (28.7 miles) or 44% would be open to all types of motor vehicle use. This would result in 6% fewer open routes in Alternative C than would be open in Alternative A. While 1 route (0.2 miles) or 6% would be open with special restrictions (6% more than in Alternative A), 8 routes (9.8 miles) or 50% would be limited to administrative use only (44% more than in Alternative A) and no routes would be closed to motor vehicle use (44% fewer than in Alternative A). As such, the long-term, direct, localized effect of these route designations with regard to reducing impacts to the viability of the wild horse herd and/or minimizing the potential for harassment of the herd would be minor to moderate, due to the open availability of 50% of the routes associated with the herd area (43 CFR 8342.1(a)(d)).

O.6.2.11.4 Alternative D

Under the Alternative D, of the 16 routes that are within the Pryor Mountain TMA, 3 routes (19.8 miles) or 19% would be open to all types of motor vehicle use. This would result in 31% fewer open routes in Alternative D than would be open in Alternative A. While 3 routes (6.7 miles) or 19% would be open with special restrictions (19% more than in Alternative A), 8 routes (8.9 miles) or 50% would be limited to administrative use only (44% more than in Alternative A) and 2 routes (3.3 miles) or 13% would be closed to motor vehicle use (31% fewer than in Alternative A). As such, the long-term, direct, localized effect of these route designations with regard to reducing impacts to the viability of the wild horse herd and/or minimizing the potential for harassment of the herd would be moderate, due to the open availability of 37% of the routes associated with the herd area (43 CFR 8342.1(a)(d)).

O.6.2.12 Cultural Resources

O.6.2.12.1 Alternative A

General Access: The primary issues for cultural resources regarding route designations and motorized access are the protection of cultural sites from physical damage related to motorized use; access opportunities related to scientific research; and public overuse and damage to certain cultural sites, either by inappropriate visitor behavior and/or too much motorized access to sites.

While restricting public motorized access to or near known cultural sites and/or areas may make it difficult to impossible for visitors to view and enjoy these resources, reductions in public access to these areas could decrease the potential for further or future damage to sites and loss of the scientific information that they hold. Conversely, unrestrained, increased or widespread motorized use in such areas may increase the potential for such damage. Inasmuch as the use of motor vehicles on public routes constitutes the primary means of access to public lands for visitors, administrative personnel and researchers, the supply and spatial extent of travel access networks for motor vehicles is an important.

Under the No Action Alternative, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions, limited to administrative use only (6%), or closed (10%). Although Alternative A carries forward closures and restrictions to administrative use only on 143 routes (170 miles) or 16% of the routes, the

overwhelming majority of routes (about 84%) would be open to all motorized uses (82.8%) or open with special seasonal (0.8%) or vehicular restrictions (0.1%).

Overall, in the long-term, the average route density for the TMAs would be 1.5 open routes per square mile at 1.7 miles per square mile. Direct and indirect impacts to cultural resources by motorized access based on route densities would potentially be even higher in the Mill Creek/Bundy TMA, which has the highest density of open routes at 2.5 routes per square mile and the Shepherd TMA, which has a high of 8.9 miles per square mile of open routes.

Therefore, Alternative A would continue to provide a moderate to high degree of motor vehicle access in the TMAs that, in the long-term, would contribute only a minor degree to reducing public motorized access and minimizing potential indirect damage to cultural resources, due to the continued open availability of over 8 out of every 10 existing BLM routes in the TMAs (43 CFR 8342.1(a)). Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, the availability of open public motorized access may increase to a minor degree, on a short-term, localized basis, potentially dispersing use into new areas that may possess cultural resources. Such effects would ebb and flow with energy development.

Public Access associated with Cultural Sites/Areas: Route networks that are open to all uses allow public access to and/or near both known and undocumented cultural resource sites and/or areas. Such access can indirectly impact cultural resources in ways that range from unintentional, unknowing damage from foot traffic to intentional, illegal destruction of sites and removal of artifacts. Managing the availability of public motorized access to and/or near known cultural sites and areas can, therefore, directly reduce the potential for these impacts to occur in the long-term, which would contribute to minimizing damage to cultural resources and the potential for adversely affecting natural areas (43 CFR 8342.1(a)(d)).

With regard to the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under the No Action Alternative, only 17 routes (26 miles) or about 5% would be limited to administrative use only and 60 routes (77 miles) or 19% would be closed; 246 routes (329 miles) or about 76% would continue to be managed as open/open with restrictions. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 77 routes at 103 miles, the direct, long-term effect of these restricted routes on reducing public motorized access and potentially minimizing damage to cultural resources would be minor, due to the continued availability of over 7 out of every 10 existing BLM routes currently associated with known cultural sites and/or areas (43 CFR 8342.1(a)).

Administrative and/or Research Access to Cultural Sites/Areas: Total closure of routes to or near these resources could have a detrimental effect on the ability of the scientific community to access sites and areas to conduct recordation, research, excavation, stabilization, restoration or other related activities.

With regard to the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under the No Action Alternative, 263 routes (355 miles) or about 81% would continue to be managed as open/open with restrictions or limited to administrative use only. Although Alternative A carries forward closures on a total of 60 routes

at 77 miles, the direct, long-term effect of these restricted routes on accessing scientific research activities at known cultural sites and/or areas would be minor, due to the continued availability of over 8 out of every 10 existing BLM routes currently available for these activities.

O.6.2.12.2 Alternative B

General Access: Under Alternative B, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would be managed as open/open with restrictions, limited to administrative use only (25%), or closed (64%). Alternative B would restrict to administrative use only and closures, 785 routes (644 miles) or 90% of the existing routes; a 73% increase from Alternative A.. Only 9.2% of existing routes would be open to all motorized uses with 0.7% open with special seasonal restrictions and 0.3% open with vehicular restrictions. This would result in 73% decrease in open routes in Alternative B from the open routes in Alternative A.

Overall, in the long-term, the average route density for the TMAs under Alternative B would be 0.2 open routes per square mile at 0.7 miles per square mile. Direct and indirect impacts to cultural resources by motorized access based on route densities would potentially higher in the Acton TMA, which, for Alternative B, would have the highest density of open routes at 0.5 routes per square mile and the Shepherd TMA, which would have the high of 7.2 miles per square mile of open routes.

Therefore, Alternative B would provide a small degree of motor vehicle access in the TMAs that, in the long-term, would contribute to reducing public motorized access and minimizing, to a major degree, the potential for indirect damage to cultural resources by the drastic reduction of open routes to just 1 out of every 10 (43 CFR 8342.1(a)). Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, the availability of open public motorized access may increase to a minor degree, on a short-term, localized basis, potentially dispersing use into new areas that may possess cultural resources. Such effects would ebb and flow with energy development.

Public Access associated with Cultural Sites/Areas: Of the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under Alternative B, 53 routes (65 miles) or about 16% would be limited to administrative use only, an 11% increase from this designation in Alternative A, and 228 routes (193 miles) or 71% would be closed, a 52% increase from this designation in Alternative A. The result is 42 routes (174 miles) or about 13% that would be managed as open/open with restrictions, a 63% reduction from open designations in Alternative A. Because Alternative B would close and restrict to administrative use only a total of 281 routes at 258 miles, the direct, long-term effect of these restricted routes on reducing public motorized access and potentially minimizing damage to cultural resources would be major, due to the limited public availability of just over 1 out of every 10 existing BLM routes currently associated with known cultural sites and/or areas (43 CFR 8342.1(a)).

Administrative and/or Research Access to Cultural Sites/Areas: With regard to the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under the Alternative B, 95 routes (239 miles) or about 29% would be managed as open/open with restrictions or limited to administrative use only, a 51% decrease from these designations in Alternative A. Because Alternative B would close a total of 228 routes at 193

miles, the direct, long-term effect of these closures on accessing scientific research activities at known cultural sites and/or areas would be moderate to major, due to potentially limiting availability to almost 3 out of every 10 existing BLM routes currently available for these activities.

0.6.2.12.3 Alternative C

General Access: Under Alternative C, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would be managed as open/open with restrictions, limited to administrative use only (14%), or closed (3%). Alternative C would restrict to administrative use only and closures, 142 routes (97 miles) or 17% of the existing routes; a 0.1% overall decrease from Alternative A.. Only 83% of existing routes would be open to all motorized uses with 0.1% open with special seasonal restrictions and 0.8% open with vehicular restrictions. This would result in 0.1% increase in open routes in Alternative C from the open routes in Alternative A.

Overall, in the long-term, the average route density for the TMAs under Alternative C would be 1.5 open routes per square mile at 1.8 miles per square mile. Direct and indirect impacts to cultural resources by motorized access based on route densities would potentially higher in the Tin Can Hill TMA, which, for Alternative C, would have the highest density of open routes at 5 routes per square mile and the Shepherd TMA, which would have the high of 8.3 miles per square mile of open routes. Alternative C increases the number of open routes only by 1 route, therefore, the impacts would be essentially the same as Alternative A.

Public Access associated with Cultural Sites/Areas: Of the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under Alternative C, 42 routes (42 miles) or about 13% would be limited to administrative use only, an 8% increase from this designation in Alternative A, and 7 routes (2 miles) or 2% would be closed, a 16% increase from this designation in Alternative A. The result is 274 routes (389 miles) or about 85% that would be managed as open/open with restrictions, a 9% increase from open designations in Alternative A. Because Alternative C would close and restrict to administrative use only a total of 49 routes at 43 miles, the direct, long-term effect of these restricted routes on reducing public motorized access and potentially minimizing damage to cultural resources would be negligible to minor, due to the public availability of over 8 out of every 10 existing BLM routes currently associated with known cultural sites and/or areas (43 CFR 8342.1(a)).

Administrative and/or Research Access to Cultural Sites/Areas: With regard to the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under the Alternative C, 316 routes (430 miles) or about 98% would be managed as open/open with restrictions or limited to administrative use only, a 16% increase from these designations in Alternative A. Because Alternative C would close a total of 7 routes at 2 miles, the direct, long-term effect of these closures on accessing scientific research activities at known cultural sites and/or areas would be negligible, due to potentially limiting availability to almost 10 out of every 10 existing BLM routes currently available for these activities.

0.6.2.12.4 Alternative D

General Access: Under Alternative D, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would be managed as open/open with restrictions, limited to

administrative use only (51%), or closed (9%). Alternative D would restrict to administrative use only and closures, 529 routes (379 miles) or 60% of the existing routes; a 44% increase from Alternative A.. Only 38% of existing routes would be open to all motorized uses with 1.3% open with special seasonal restrictions and 0.6% open with vehicular restrictions. This would result in 44% decrease in open routes in Alternative D from the open routes in Alternative A.

Overall, in the long-term, the average route density for the TMAs under Alternative D would be 0.7 open routes per square mile at 1.2 miles per square mile. Direct and indirect impacts to cultural resources by motorized access based on route densities would potentially higher in the Tin Can Hill TMA, which, for Alternative D, would have the highest density of open routes at 2 routes per square mile and the Shepherd TMA, which would have the high of 7.2 miles per square mile of open routes.

Therefore, Alternative D would provide a moderate degree of motor vehicle access in the TMAs that, in the long-term, would contribute to reducing public motorized access and minimizing, to a moderate degree, the potential for indirect damage to cultural resources by the reduction of open routes to just 4 out of every 10 (43 CFR 8342.1(a)). Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, the availability of open public motorized access may increase to a minor degree, on a short-term, localized basis, potentially dispersing use into new areas that may possess cultural resources. Such effects would ebb and flow with energy development.

Public Access associated with Cultural Sites/Areas: Of the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under Alternative D, 157 routes (121 miles) or about 49% would be limited to administrative use only, an 43% increase from this designation in Alternative A, and 45 routes (54 miles) or 14% would be closed, a 5% decrease from this designation in Alternative A. The result is 121 routes (258 miles) or about 37% that would be managed as open/open with restrictions, a 39% reduction from open designations in Alternative A. Because Alternative D would close and restrict to administrative use only a total of 202 routes at 174 miles, the direct, long-term effect of these restricted routes on reducing public motorized access and potentially minimizing damage to cultural resources would be minor to moderate, due to the limited public availability of just under 4 out of every 10 existing BLM routes currently associated with known cultural sites and/or areas (43 CFR 8342.1(a)).

Administrative and/or Research Access to Cultural Sites/Areas: With regard to the 323 routes that are considered to be in, through or proximate (within 300 feet) to known cultural sites and/or areas under the Alternative D, 278 routes (379 miles) or about 86% would be managed as open/open with restrictions or limited to administrative use only, a 5% increase of these designations in Alternative A. Because Alternative D would close a total of 45 routes at 54 miles, the direct, long-term effect of these closures on accessing scientific research activities at known cultural sites and/or areas would be minor, due to potentially limiting availability to almost 8.6 out of every 10 existing BLM routes currently available for these activities.

O.6.2.13 Paleontological Resources

O.6.2.13.1 Impacts Common to All Alternatives

This section presents the potential impacts of route designations on paleontological resources. Specifically, it evaluates the potential for elements of travel management to directly impact these resources by off-route vehicle use or by providing access to areas with moderate to high potential fossil yields and thus indirectly increasing the likelihood of travelers getting out of their vehicles, walking around and finding vertebrate fossils that may then be intentionally stolen or unintentionally damaged. Generally, motorized travel on designated routes are of no concern, as fossils at the surface within the roadbeds are already impacted or removed, while fossils under the surface are typically undisturbed. Additionally, potential restrictions to public motorized access in areas with potential fossil yields are evaluated in this section, as they may support or complement BLMs strategies and management objectives aimed at protecting these resources. More directly stated, in relation to travel networks, the availability of access to and through such areas is an important factor in managing and protecting these resources in the long-term.

Analysis of possible route designation impacts to paleontological resources considers potential route networks in light of the Potential Fossil Yield Classification (PFYC) for each alternative, which is tied directly to certain geologic formations that have varying potentials for yielding fossils. Formations that have a PFYC 3a or 3b are of interest to science and specialists, while formations that have a PFYC 4 are of special interest, and PFYC 5 formations have proven value.

O.6.2.13.2 Alternative A

PFYC 5 Areas: This section evaluates motorized access in and through all PFYC 5 areas in the TMA. Under the No Action Alternative, the overall network of 518 existing BLM routes (433 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (8%), and closed (1%). The majority of routes (about 91%) would be open to all motorized uses (90%) or open with special seasonal or vehicular restrictions (1%). In the long-term, 9 out of every 10 existing BLM routes would remain available for public access in and through PFYC 5 areas. With 91% of existing routes potentially open and only 9% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be negligible (43 CFR 8342.1(a) (d)).

PFYC 4 Areas: This section evaluates motorized access in and through all PFYC 4 areas in the TMA. Under the No Action Alternative, the overall network of 13 existing BLM routes (8 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (0%), and closed (23%). The majority of routes (about 77%) would be open to all motorized uses, with no routes open with special seasonal or vehicular restrictions (0%). In the long-term, almost 8 out of every 10 existing BLM routes would remain available for public access in and through PFYC 4 areas. With 77% of existing routes potentially open and only 23% potentially closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts

to formations with special interest for yielding paleontological resources would be minor (43 CFR 8342.1(a) (d)).

PFYC 3a & 3b Areas: This section evaluates motorized access in and through all PFYC 3a and 3b areas in the TMAs. Under the No Action Alternative, the overall network of 212 existing BLM routes (230 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (4%), and closed (15%). The majority of routes (about 81%) would be open to all motorized uses (80%) or open with special seasonal restrictions (1%). In the long-term, 8 out of every 10 existing BLM routes would remain available for public access in and through PFYC 3a and 3b areas. With 81% of existing routes potentially open and only 19% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be negligible to minor (43 CFR 8342.1(a) (d)).

O.6.2.13.3 Alternative B

PFYC 5 Areas: This section evaluates motorized access in and through all PFYC 5 areas in the TMAs. Under Alternative B, the overall network of 518 existing BLM routes (433 miles) would be managed as 9% open/open with restrictions (about 82% fewer than Alternative A), 28% limited to administrative use only (about 20% more than Alternative A), and 63% closed (about 62% more than Alternative A). Few routes would be open to all motorized uses (8.5%) or open with special seasonal or vehicular restrictions (0.8%). In the long-term, just under 1 out of every 10 existing BLM routes would remain available for public access in and through PFYC 5 areas. With only 9% of existing routes potentially open and 91% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be major (43 CFR 8342.1(a) (d)).

PFYC 4 Areas: This section evaluates motorized access in and through all PFYC 4 areas in the TMAs. Under Alternative B, the overall network of 13 existing BLM routes (8 miles) would be managed as 0% open/open with restrictions (about 77% fewer than Alternative A), 31% limited to administrative use only (about 31% more than Alternative A), and 69% closed (about 46% more than Alternative A). No routes would be open to all motorized uses or open with special seasonal or vehicular restrictions. In the long-term, 0 out of every 10 existing BLM routes would remain available for public access in and through PFYC 4 areas. With no existing routes potentially open and 100% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with special interest for yielding paleontological resources would be major (43 CFR 8342.1(a) (d)).

PFYC 3a & 3b Areas: This section evaluates motorized access in and through all PFYC 3a and 3b areas in the TMAs. Under Alternative B, the overall network of 212 existing BLM routes (230 miles) would be managed as 16% open/open with restrictions (about 66% fewer than Alternative A), 23% limited to administrative use only (about 19% more than Alternative A), and 61% closed (about 47% more than Alternative A). Few routes would be open to all motorized

uses (14%) or open with special seasonal or vehicle restrictions (2%). In the long-term, 1.6 out of every 10 existing BLM routes would remain available for public access in and through PFYC 3a and 3b areas. With only 16% of existing routes potentially open and 84% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be major (43 CFR 8342.1(a) (d)).

0.6.2.13.4 Alternative C

Impacts from Route Designations to Paleontological Resources

PFYC 5 Areas: This section evaluates motorized access in and through all PFYC 5 areas in the TMAs. Under Alternative C, the overall network of 518 existing BLM routes (433 miles) would be managed as 83% open/open with restrictions (about 8% fewer than Alternative A), 14% limited to administrative use only (about 6% more than Alternative A), or 3% closed (about 2% more than Alternative A). Most routes would be open to all motorized uses (82%) and open with special vehicular restrictions (1.2%). In the long-term, just over 8 out of every 10 existing BLM routes would remain available for public access in and through PFYC 5 areas. With 83% of existing routes potentially open and only 17% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be minor (43 CFR 8342.1(a) (d)).

PFYC 4 Areas: This section evaluates motorized access in and through all PFYC 4 areas in the TMAs. Under Alternative C, the overall network of 13 existing BLM routes (8 miles) would be managed as 92% open/open with restrictions (about 15% more than Alternative A), 8% limited to administrative use only (about 8% fewer than Alternative A), and no closed routes (about 23% fewer than Alternative A). Most routes (92%) would be open to all motorized uses with no open with special seasonal or vehicular restrictions. In the long-term, over 9 out of every 10 existing BLM routes would remain available for public access in and through PFYC 4 areas. With 92% of existing routes potentially open, only 8% potentially limited to administrative use only and no routes closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with special interest for yielding paleontological resources would be negligible (43 CFR 8342.1(a) (d)).

PFYC 3a & 3b Areas: This section evaluates motorized access in and through all PFYC 3a and 3b areas in the TMAs. Under Alternative C, the overall network of 212 existing BLM routes (230 miles) would be managed as 88% open/open with restrictions (about 7% more than Alternative A), 11% limited to administrative use only (about 7% more than Alternative A), and 1% closed (about 13% fewer than Alternative A). Most routes would be open to all motorized uses (87%) or open with vehicle restrictions (1%). In the long-term, almost 9 out of every 10 existing BLM routes would remain available for public access in and through PFYC 3a and 3b areas. With 88% of existing routes potentially open and only 12% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect

impacts to formations with proven value for yielding paleontological resources would be negligible (43 CFR 8342.1(a) (d)).

O.6.2.13.5 Alternative D

Impacts from Route Designations to Paleontological Resources

PFYC 5 Areas: This section evaluates motorized access in and through all PFYC 5 areas in the TMAs. Under Alternative D, the overall network of 518 existing BLM routes (433 miles) would be managed as 39% open/open with restrictions (about 52% fewer than Alternative A), 52% limited to administrative use only (about 44% more than Alternative A), and 9% closed (about 8% more than Alternative A). Many routes would be open to all motorized uses (37%) or open with special seasonal or vehicular restrictions (2%). In the long-term, just under 4 out of every 10 existing BLM routes would remain available for public access in and through PFYC 5 areas. With 39% of existing routes potentially open and 61% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be moderate to major (43 CFR 8342.1(a) (d)).

PFYC 4 Areas: This section evaluates motorized access in and through all PFYC 4 areas in the TMAs. Under Alternative D, the overall network of 13 existing BLM routes (8 miles) would be managed as 8% open (about 69% fewer than Alternative A), 84% limited to administrative use only (about 85% more than Alternative A), and 8% closed (about 15% more than Alternative A). No routes would be open with special seasonal or vehicular restrictions. In the long-term, almost 1 out of every 10 existing BLM routes would remain available for public access in and through PFYC 4 areas. With 8% of existing routes potentially open and 92% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with special interest for yielding paleontological resources would be major (43 CFR 8342.1(a) (d)).

PFYC 3a & 3b Areas: This section evaluates motorized access in and through all PFYC 3a and 3b areas in the TMAs. Under Alternative D, the overall network of 212 existing BLM routes (230 miles) would be managed as 47% open/open with restrictions (about 34% fewer than Alternative A), 45% limited to administrative use only (about 41% more than Alternative A), and 8% closed (about 7% fewer than Alternative A). Many routes would be open to all motorized uses (45%) or open with special seasonal or vehicle restrictions (2%). In the long-term, almost 5 out of every 10 existing BLM routes would remain available for public access in and through PFYC 3a and 3b areas. With 47% of existing routes potentially open and 53% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to formations with proven value for yielding paleontological resources would be moderate (43 CFR 8342.1(a) (d)).

0.6.2.14 Visual Resources

0.6.2.14.1 Alternative A

This section presents the potential impacts of route designations on visual resources, specifically the potential for elements of travel management to create or perpetuate visual changes or contrasts in the landscape, as evaluated against the proposed visual resource objectives (VRM classes). Additionally, potential restrictions to public motorized access in an area previously known for its sightseeing, scenic vistas, or overlooks are evaluated, as they may encumber visitors' opportunities to engage in those activities and enjoy the potential experience and benefits they offer. Managing 877 miles of existing routes in the TMAs could continue to influence the landscape to varying degrees. Travel on these routes would continue to produce intermittent dust, causing indirect, short-term, and negligible to minor visual impacts; essentially visible human-caused contrasts with the existing landscape. The visual impact of carrying forward closure of 108 miles (11%) of existing route miles in the TMAs would continue to diminish, either by direct active reclamation actions in the short-term or by indirect natural processes in the long-term. Additionally, actions such as rerouting poor route alignments, monitoring the creation of unauthorized routes and obscuring/rehabilitating those found, and active and/or passive natural reclamation of any temporary routes would enhance visual resources by reducing visual contrasts on a localized, long-term basis. Employing a designated trails and travel management system could indirectly ensure that the public would continue to have access opportunities to scenic resources over the long-term.

Regarding potential effects of route designations on the visual appearance of the landscape, under the No Action Alternative, the network's open route "footprint" (disturbed surface) is 0.17% of the total VRM Class I acreage in the TMAs, or a 1:576 ratio of route acres to acres without routes. For VRM Class II, the footprint is 0.29% or a 1:345 ratio, while VRM Class III is 0.42% or a 1:239 ratio and VRM Class IV is 0.08% or 1:1,322 ratio. This footprint would represent a continuation of a negligible to minor, long-term impact to visual resources (43 CFR 8342.1(a)), due to the relatively small and widely dispersed route "footprint".

Regarding access for the general public for sightseeing and enjoying scenic resources in the TMAs, under the No Action Alternative, the overall network of 877 existing BLM routes (993 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (6%), or closed (10%). The overwhelming majority of routes (about 84%) would be open to all motorized uses (82.8%) or open with special seasonal (0.8%) or vehicular restrictions (0.1%). In the long-term, over 8 out of every 10 existing BLM routes would remain available for public access to the TMAs. Under Alternative A, 50% of the existing access within VRM Class I areas would be open to all motorized uses, while 55% in VRM Class II, 86% in VRM Class III and 100% in VRM Class IV would be open. With 84% of existing routes potentially open and only 16% potentially limited to administrative use only or closed to motor vehicle use, the long-term, direct, widespread effect of these route restrictions on reducing public access to scenic resources in general would be negligible to minor.

0.6.2.14.2 Alternative B

Managing 877 miles of existing routes in the TMAs could continue to influence the landscape to varying degrees. Closing 397 miles (40%) of existing route miles in the TMAs would increase

the amount of existing (Alternative A) closures by 29%, further diminishing the overall visual appearance of routes on the landscape, either by direct active reclamation actions in the short-term or by indirect natural processes in the long-term. Under Alternative B, the network's open route "footprint" (disturbed surface) is 0.14% of the total VRM Class I acreage in the TMAs, or a 1:706 ratio of route acres to acres without routes, a 17.6% reduction from Alternative A. For VRM Class II, the footprint is 0.17% or a 1:592 ratio (a 41.4% reduction from Alternative A), while VRM Class III is 0.19% or a 1:531 ratio (a 54.7% reduction from Alternative A) and VRM Class IV is 0. This would represent a moderate to major reduction of long-term impacts to visual resources by routes (43 CFR 8342.1(a)), due to a greatly reduced route "footprint".

Regarding access for the general public for sightseeing and enjoying scenic resources in the TMAs, under the Alternative B, the overall network of 877 existing BLM routes (993 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (25%), or closed (64%). Few routes (about 10.4%) would be open to all motorized uses (9.2%) or open with special seasonal (0.7%) or vehicular restrictions (0.3%). In the long-term, just over 1 out of every 10 existing BLM routes would be available for public access to the TMAs. Under Alternative B, 25% of the existing access within VRM Class I areas would be open to all motorized uses or open with restrictions, while 12% in VRM Class II, 10% in VRM Class III and no routes in VRM Class IV would be open. With only 10.4% of existing routes potentially open and almost 90% potentially limited to administrative use only or closed to motor vehicle use, the long-term, direct, widespread effect of these route restrictions on reducing public access to scenic resources in general would be major.

O.6.2.14.3 Alternative C

Managing 877 miles of existing routes in the TMAs could continue to influence the landscape to varying degrees. Closing only 5.9 miles (0.6%) of existing route miles in the TMAs would decrease the amount of existing (Alternative A) closures by 10%, only slightly diminishing the overall visual appearance of routes on the landscape, either by direct active reclamation actions in the short-term or by indirect natural processes in the long-term. This would also represent a 10% increase in the visual contrast created by routes, as this increase would come about by re-opening currently closed routes. Under Alternative C, the network's open route "footprint" (disturbed surface) is 0.18% of the total VRM Class I acreage in the TMAs, or a 1:552 ratio of route acres to acres without routes, a 5.8% increase from Alternative A. For VRM Class II, the footprint is 0.49% or a 1:202 ratio (a 69% increase from Alternative A), while VRM Class III is 0.45% or a 1:223 ratio (a 7.1% increase from Alternative A) and VRM Class IV is 0.08% or a 1:1,321 ratio (the same as Alternative A). This would represent a minor increase of long-term impacts to visual resources by routes in VRM Classes I and III, and a moderate to major increase in VRM Class II (43 CFR 8342.1(a)), due to an increased route "footprint" inherent with more open and administrative routes designated from previously closed routes.

Regarding access for the general public for sightseeing and enjoying scenic resources in the TMAs, under the Alternative C, the overall network of 877 existing BLM routes (993 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (14%), or closed (2.5%). The majority of routes (about 84%) would be open to all motorized uses (82.9%) or open with special seasonal (0.1%) or vehicular restrictions (0.8%). In the long-term, over 8 out of every 10 existing BLM routes would be available for public access to the

TMA. Under Alternative C, 56% of the existing access within VRM Class I areas would be open to all motorized uses or open with restrictions, while 73% in VRM Class II, 85% in VRM Class III and 100% of routes in VRM Class IV would be open. With 84% of existing routes potentially open and about 16% potentially limited to administrative use only or closed to motor vehicle use, the long-term, direct, widespread effect of these route restrictions on reducing public access to scenic resources in general would be negligible.

0.6.2.14.4 Alternative D

Managing 877 miles of existing routes in the TMAs could continue to influence the landscape to varying degrees. Closing 66 miles (7%) of existing route miles in the TMAs would decrease the amount of existing (Alternative A) closures by 4%, only slightly diminishing the overall visual appearance of routes on the landscape, either by direct active reclamation actions in the short-term or by indirect natural processes in the long-term. This would also represent a 4% increase in the visual contrast created by routes, as this increase would come about by re-opening currently closed routes. Under Alternative D, the network's open route "footprint" (disturbed surface) is 0.17% of the total VRM Class I acreage in the TMAs, or a 1:601 ratio of route acres to acres without routes; a very slight change from Alternative A. For VRM Class II, the footprint is 0.18% or a 1:553 ratio (a 38% reduction from Alternative A), while VRM Class III is 0.32% or a 1:313 ratio (a 24% reduction from Alternative A) and VRM Class IV is 0 (same as Alternative A). This would represent a minor decrease of long-term impacts to visual resources by routes in VRM Classes II, III and IV, with no change in VRM Class I (43 CFR 8342.1(a)), due to an decreased open route "footprint", though fewer routes would be closed in Alternative D than in Alternative A.

Regarding access for the general public for sightseeing and enjoying scenic resources in the TMAs, under the Alternative D, the overall network of 877 existing BLM routes (993 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (32%), or closed (7%). Most routes (about 62%) would be open to all motorized uses (53.4%) or open with special seasonal (1.5%) or vehicular restrictions (6.9%). In the long-term, just over 6 out of every 10 existing BLM routes would be available for public access to the TMAs. Under Alternative D, 44% of the existing access within VRM Class I areas would be open to all motorized uses or open with restrictions, while 21% in VRM Class II, 40% in VRM Class III and no routes in VRM Class IV would be open. With 62% of existing routes potentially open and 38% potentially limited to administrative use only or closed to motor vehicle use, the long-term, direct, widespread effect of these route restrictions on reducing public access to scenic resources in general would be moderate.

0.6.2.15 Wildfire and Ecology and Management

0.6.2.15.1 Alternative A

The potential for human-ignited wildfires would increase with increased human use in the BIFO. Areas accessible to motorized vehicles would likely be the most susceptible to human-ignited wildfires, but increased ignitions and acreage burned because of increased access would be difficult to quantify.

Maintaining or upgrading designated routes could make these areas more accessible to fire suppression vehicles but would lead to increased public use. Increased mileage of roads and trails would result in less continuous fuels. In such areas, fires could not spread as rapidly as in areas in which fuels were more continuous, making it more difficult to restore fire to its historical role in fire-adapted vegetation.

Under Alternative A, 326,561 acres (76%) of the BIFO would be limited to existing roads and trails, allowing the potential for human-ignited wildfires over a large portion of the BIFO and continued increase of user developed trails. Motor vehicles would be limited to designated routes on 101,027 acres (24%) of the BIFO; 260 acres (less than 1%) of the BIFO would be closed to motorized vehicle use. Under this Alternative, 885 miles of routes in the BIFO would be open to motorized use; the most under all the Alternatives.

O.6.2.15.2 Alternative B

The types of impacts experienced as a result of travel management would be similar to those described under Alternative A. However, Alternative B identifies 145,303 acres (34%) of the BIFO as limited to existing routes; motor vehicles would be limited to designated routes on 282,285 acres (66%) of the BIFO; and 1,357 acres (less than 1%) would be closed to motorized vehicle use. The acreage impacted by identified routes, although reduced in comparison to Alternative A, would still result in the potential for human-ignited wildfires over a large portion of the BIFO.

Motorized vehicle use limited to designated routes would limit the potential for human-ignited wildfires in the majority of the BIFO. Fuels would be more discontinuous with increased mileage of roads and trails in fire-adapted vegetation.

The establishment of eleven Travel Management Areas would reduce the number of miles of routes and improve route monitoring and maintenance. Reduction of routes would lessen the negative impacts to forest resources, except for the possible reduction in access for harvest and forest treatments. The increased cost of constructing and decommissioning the temporary routes needed for treatment and harvest would reduce the amount of acres treated over the life of the plan.

Upon completion of a project, roads would be reclaimed. Reclamation at the culmination of each project would provide the conditions needed for quick forest regeneration. This Alternative closes or limits the most routes and reduces access for forest treatments and harvest more than other Alternatives. The current level of planning would limit access to areas such as Tin Can Hill and Mill Creek/Bundy causing forest treatments and harvest to be more expensive. The closures in this Alternative would restrict access and eliminate all but the most expensive hand treatments in portions of some areas such as Grove Creek.

O.6.2.15.3 Alternative C

The types of impacts experienced as a result of travel management would be similar to those described under Alternative B. However, Alternative C designates 61 acres as closed to motorized vehicles; motor vehicles would be limited to designated routes on 282,285 acres (66%) of the BIFO; and 145,303 acres (34%) would be limited to existing routes. The acreage

impacted by identified routes, although reduced in comparison to Alternative A, would still result in the potential for human-ignited wildfires over a large portion of the BIFO.

The impacts to forest resources would be the same as described in Alternative A. Compaction, loss of infiltration, erosion and vegetation loss would be somewhat less than Alternative A. This Alternative would allow similar access for forest treatment and harvest as Alternative A.

O.6.2.15.4 Alternative D

The types of impacts experienced as a result of travel management would be similar to those described under Alternative B. However, Alternative D designates 375 acres (less than 1% of the BIFO) closed to motorized use, eliminating the potential for human-ignited wildfires in those areas. Motor vehicles would be limited to designated routes on 282,285 acres (66%) of the BIFO; and 145,303 acres (34%) would be limited to existing routes.

O.6.2.16 Wilderness Characteristics

O.6.2.16.1 Alternative A

This section presents the potential impacts of route designations on lands that have been evaluated and found to possess wilderness characteristics. Specifically, route designations have the potential to impact the "naturalness" component of LWC areas by providing motorized access into these areas or along their boundaries; access that always carries with it the potential for illegal, off-road use that can impact documented natural conditions.

Under the No Action Alternative, 1 route (1.9 miles) or 100% of all routes located within a LWC area, would continue to be managed as open. The potential indirect, long-term effect of this open route on the natural conditions of this area would be negligible to minor, as signing, appropriate barriers, and regular monitoring would deter illegal, off-road travel, minimizing the potential for impairment of wilderness characteristics and for adversely affecting the natural values of the LWC (43 CFR 8342.1(a)(d)).

Of the 3 routes that follow LWC boundaries in the TMAs, under the No Action Alternative, 3 routes (6.9 miles) or 100% would continue to be managed as open, while no routes would be limited to administrative use only or closed. The potential indirect, long-term effect of these open routes on the natural conditions of the LWC areas they bound would be minor, as signing, appropriate barriers, and regular monitoring would deter illegal, off-road travel, minimizing the potential for impairment of wilderness characteristics and for adversely affecting the natural values of the LWC (43 CFR 8342.1(a)(d)).

O.6.2.16.2 Alternative B

Under Alternative B, 1 route (1.9 miles) or 100% of all routes located within a LWC area (same as Alternative A), would continue to be managed as open. The impacts of this route would be the same as Alternative A.

Of the 3 routes that follow LWC boundaries in the TMAs, under Alternative B, 1 route (3.8 miles) or 33% would continue to be managed as open, while 1 route (2.2 miles) or 33% would be

limited to administrative use only and 1 route (0.9 miles) or 33% would be closed. The potential direct, long-term effect of these route designations on the natural conditions of the LWC areas they bound would be moderate to major, as public motorized use would be removed from 2/3 of the existing open boundary routes. Together with signing, appropriate barriers, and regular monitoring along the remaining route, the potential for illegal, off-road travel would be greatly reduced, minimizing the potential for impairment of wilderness characteristics and for adversely affecting the natural values of the LWC (43 CFR 8342.1(a)(d)).

O.6.2.16.3 Alternative C

Under Alternative C, 1 route (1.9 miles) or 100% of all routes located within a LWC area (same as Alternative A), would continue to be managed as open. The impacts of this route would be the same as Alternative A.

Of the 3 routes that follow LWC boundaries in the TMAs, under Alternative C, 2 routes (5.9 miles) or 67% would continue to be managed as open, while 1 route (2.2 miles) or 33% would be limited to administrative use only and no routes would be closed. The potential direct, long-term effect of these route designations on the natural conditions of the LWC areas they bound would be minor to moderate, as public motorized use would be removed from 1/3 of the existing boundary routes. Together with signing, appropriate barriers, and regular monitoring along the remaining routes, the potential for illegal, off-road travel would be reduced, minimizing the potential for impairment of wilderness characteristics and for adversely affecting the natural values of the LWC (43 CFR 8342.1(a)(d)).

O.6.2.16.4 Alternative D

Under Alternative D, 1 route (1.9 miles) or 100% of all routes located within a LWC area (same as Alternative A), would continue to be managed as open. The impacts of this route would be the same as Alternative A.

Under Alternative D, designations for routes along or bounding LWC areas would be the same as Alternative C. The impacts of these routes would be the same as Alternative C.

O.6.2.17 Lands and Realty

O.6.2.17.1 Alternative A

The primary impacts to lands and realty programs and uses from general public motorized access to public lands are vandalism of authorized facilities, trespass, interruptions in energy or water transmissions, etc. Specifically, the availability of motorized access to authorized facilities and/or private, state or other land ownerships comes into play when assessing impacts to lands and realty-related users. Planning decisions that involve changes to the available number and overall miles of roads open for public and/or administrative use and the number of acres of routes proposed for closure would affect these users to varying degrees. Inasmuch as the use of motor vehicles on public routes constitutes the primary means of access to public lands for both authorized users and other land owners, the supply and spatial extent of travel access networks for motor vehicles is an important factor in assessing potential impacts to their operations or property rights by the route designations in the Travel Management Areas (TMA).

In analyzing the potential effects of route designations on authorized uses and private and state inholdings, differences between each action alternative's set of route designations and the no action, current management route designations are analyzed and expressed primarily in terms of 'absolute percent change' versus a more familiar method of expressing 'relative percent change'. As a comparative example, in relative terms, an alternative that proposes to close 562 routes in Alternative X out of the total 877 routes that exist where only 89 routes out of 877 routes are closed under No Action represents a 631% increase in the number of routes closed in Alternative X relative to the No Action Alternative. In absolute terms, however, the 89 closed routes in the No Action Alternative represent 10% of the current total network while under Alternative X, the 562 closed routes represent 64% of the potential network, resulting in 54% more routes closed in Alternative X than in the No Action Alternative. Planners determined to use the 'absolute percent change', primarily because a) the route 'population', or total number of routes under consideration for designation is constant for all alternatives for each query and b) planners believe the results better depict the 'shifting' of designations within alternatives using the same route inventory.

Authorized facilities or uses on public lands, such as electric transmission lines, water pipelines, communication sites, etc., are typically accessed by motorized vehicle along existing routes. Total closure of routes that access these facilities could have a detrimental effect on the ability of the authorized user to access facilities for maintenance or other related activities essential to the authorized use.

With regard to the 159 routes that are associated with authorized uses under the No Action Alternative, 143 routes (259 miles) or about 90% would be open to all motorized uses or open with restrictions. Additionally, 4 routes (7 miles) or 3% of routes associated with facilities would be limited to administrative use only (which generally includes authorized users) and 12 routes (18 miles) or 8% would be closed. Although Alternative A carries forward 12 route closures, 8% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of authorized users to access facilities or use sites would be negligible, due to the continued availability of over 9 out of every 10 existing BLM routes for these activities.

Private and State land inholdings that are within larger blocks of public lands are typically accessed by motorized vehicle along existing routes. Total closure of routes to lands could have a detrimental effect on the ability of the land owners to access them.

With regard to the 149 routes that are associated with accessing private and state inholdings within larger blocks of public lands in the TMAs, under the No Action Alternative, 144 routes or about 97% would continue to be managed as open/open with restrictions or limited to administrative use only. Although Alternative A carries forward 5 route closures, over 3% of routes associated with inholdings, the direct, long-term effect of these closed routes on the ability to access private or state lands would be negligible to minor, due to the continued availability of almost 10 out of every 10 existing BLM routes for these activities.

0.6.2.17.2 Alternative B

With regard to the 159 routes that are associated with authorized uses under Alternative B, 29 routes (155 miles) or about 18% would be open to all motorized uses or open with restrictions

(72% fewer than in Alternative A). Additionally, 60 routes (78 miles) or 38% of routes associated with facilities (35% more than in Alternative A) would be limited to administrative use only (which generally includes authorized users) and 70 routes (51 miles) or 44% would be closed (37% more than in Alternative A). Because Alternative B would close 70 routes or 44% of routes associated with authorized uses, the direct, long-term effect of these closed routes on the ability of authorized users to access facilities would be moderate, in part, due to the availability of over 5 out of every 10 existing BLM routes for these activities.

Of the 149 routes that are associated with accessing private and state inholdings within the larger blocks of public lands in the TMAs, under Alternative B, 68 routes or about 46% would continue to be managed as open/open with restrictions or limited to administrative use only (51% fewer than in Alternative A). Because Alternative B would close 81 routes, or over 54% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability to access private or state lands would be moderate to major, due to the availability of over 4 out of every 10 existing BLM routes for these activities.

O.6.2.17.3 Alternative C

With regard to the 159 routes that are associated with authorized uses under Alternative C, 142 routes (271 miles) or about 89% would be open to all motorized uses or open with restrictions (0.6% fewer than in Alternative A). Additionally, 16 routes (13 miles) or 10% of routes associated with facilities (8% more than in Alternative A) would be limited to administrative use only (which generally includes authorized users) and 1 route (0.7 miles) or 0.6% would be closed (7% fewer than in Alternative A). Because Alternative C would close only 1 route or 0.6% of routes associated with authorized uses, the direct, long-term effect of these closed routes on the ability of authorized users to access facilities would be negligible, in part, due to the availability of almost 10 out of every 10 existing BLM routes for these activities.

Of the 149 routes that are associated with accessing private and state inholdings within the larger blocks of public lands in the TMAs, under Alternative C, 147 routes or about 99% would continue to be managed as open/open with restrictions or limited to administrative use only (2% more than in Alternative A). Because Alternative C would close 2 routes, or 1% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability to access private or state lands would be negligible, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

O.6.2.17.4 Alternative D

With regard to the 159 routes that are associated with authorized uses under Alternative D, 80 routes (220 miles) or about 50% would be open to all motorized uses or open with restrictions (40% fewer than in Alternative A). Additionally, 74 routes (62 miles) or 47% of routes associated with facilities (44% more than in Alternative A) would be limited to administrative use only (which generally includes authorized users) and 5 routes (2 miles) or 0.8% would be closed (4% fewer than in Alternative A). Because Alternative D would close 5 routes or 3% of routes associated with authorized uses, the direct, long-term effect of these closed routes on the ability of authorized users to access facilities would be negligible to minor, in part, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Of the 149 routes that are associated with accessing private and state inholdings within the larger blocks of public lands in the TMAs, under Alternative D, 135 routes or about 91% would continue to be managed as open/open with restrictions or limited to administrative use only (6% fewer than in Alternative A). Because Alternative D would close 14 routes, or over 9% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability to access private or state lands would be minor, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

O.6.2.18 Livestock Grazing

O.6.2.18.1 Alternative A

The primary impacts to livestock grazing and rangeland management from general public motorized access to public lands are vandalism of facilities, intentional and/or unintentional harassment of livestock, inadvertent disruptions of livestock management operations (i.e., leaving gates open), and impacts to soils and vegetation. Specifically, the availability of motorized access to rangeland facilities and/or monitoring sites comes into play when assessing impacts to livestock grazing operations and rangeland management responsibilities. Planning decisions that involve changes to the available number and overall miles of roads open for public and/or administrative use and the number of acres of routes proposed for closure would affect these operations and responsibilities to varying degrees. Inasmuch as the use of motor vehicles on public routes constitutes the primary means of access to public lands for both permitted livestock operators and administrative personnel in order to perform required tasks, the supply and spatial extent of travel access networks for motor vehicles is an important factor in assessing potential impacts to livestock grazing and rangeland management by the route designations in the Travel Management Areas (TMA).

In analyzing the potential effects of route designations on rangeland-related activities, differences between each action alternative's set of route designations and the no action, current management route designations are analyzed and expressed primarily in terms of 'absolute percent change' versus a more familiar method of expressing 'relative percent change'. As a comparative example, in relative terms, an alternative that proposes to close 562 routes in Alternative X out of the total 877 routes that exist where only 89 routes out of 877 routes are closed under No Action represents a 631% increase in the number of routes closed in Alternative X relative to the No Action Alternative. In absolute terms, however, the 89 closed routes in the No Action Alternative represent 10% of the current total network while under Alternative X, the 562 closed routes represent 64% of the potential network, resulting in 54% more routes closed in Alternative X than in the No Action Alternative. Planners determined to use the 'absolute percent change', primarily because a) the route 'population', or total number of routes under consideration for designation is constant for all alternatives for each query and b) planners believe the results better depict the 'shifting' of designations within alternatives using the same route inventory.

Routes accessing rangeland facilities: Rangeland improvements or facilities for livestock grazing operations, such as fences, gates, wells, windmills, cattleguards, corrals, pipelines, ponds, springs, and tanks, are typically accessed by motorized vehicle along existing routes. Total closure of routes that access these facilities could have a detrimental effect on the ability of

the permitted commercial livestock grazing operator to access facilities for gathering, branding, providing water or other related activities essential to the operator's business.

With regard to the 580 routes that are associated with livestock grazing facilities under the No Action Alternative, 493 routes (691 miles) or about 85% would be open to all motorized uses or open with restrictions. Additionally, 37 routes (45 miles) or 6% of routes associated with facilities would be limited to administrative use only (which generally includes grazing operators) and 50 routes (68 miles) or 9% would be closed. Although Alternative A carries forward 50 route closures, 9% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be negligible, due to the continued availability of over 9 out of every 10 existing BLM routes for these activities.

Routes accessing agency management/monitoring sites: Rangeland management and monitoring sites, areas or sites of seeding, predator control, vegetation treatment, fuels management, monitoring or exclosures are typically accessed by motorized vehicle along existing routes. Total closure of routes to or near these areas or sites could have a detrimental effect on the ability of the agency personnel to access them to conduct research, treatments, reclamation or other related activities.

With regard to the 259 routes that are associated with rangeland management or monitoring areas or sites under the No Action Alternative, 237 routes (446 miles) or about 92% would continue to be managed as open/open with restrictions or limited to administrative use only. Although Alternative A carries forward 22 route closures, over 8% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be negligible, due to the continued availability of over 9 out of every 10 existing BLM routes for these activities.

Routes closed with reclamation: Routes that are proposed for closure would either be allowed to reclaim vegetative cover naturally over time or would receive some degree of mechanical reclamation following closure. In either case, the route acreage returned to a more natural condition would potentially change forage availability in pastures associated with such routes.

Under the No Action Alternative, no routes would be slated for active, mechanical reclamation. However, 81 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 120 acres.

O.6.2.18.2 Alternative B

Routes accessing rangeland facilities: With regard to the 580 routes that are associated with livestock grazing facilities under Alternative B, 83 routes (338 miles) or about 14% would be open to all motorized uses or open with restrictions (71% fewer than in Alternative A). Additionally, 181 routes (214 miles) or 31% of routes associated with facilities (25% more than in Alternative A) would be limited to administrative use only (which generally includes grazing operators) and 316 routes (252 miles) or 55% would be closed (46% more than in Alternative A). Because Alternative B would close 316 routes or 55% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock

grazing facilities would be major, in part, due to the availability of over 4 out of every 10 existing BLM routes for these activities.

Routes accessing agency management/monitoring sites: Of the 259 routes that are associated with rangeland management or monitoring areas or sites under Alternative B, 142 routes (385 miles) or about 55% would continue to be managed as open/open with restrictions or limited to administrative use only (36% fewer than in Alternative A). Because Alternative B would close 117 routes, or over 45% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be moderate to major, due to the availability of over 5 out of every 10 existing BLM routes for these activities.

Routes closed with reclamation: Under Alternative B, no routes would be slated for active, mechanical reclamation (same as Alternative A). However, 458 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 404 acres, 285 more acres than Alternative A.

0.6.2.18.3 Alternative C

Routes accessing rangeland facilities: With regard to the 580 routes that are associated with livestock grazing facilities under Alternative C, 490 routes (735 miles) or about 84% would be open to all motorized uses or open with restrictions (0.5% fewer than in Alternative A). Additionally, 76 routes (64 miles) or 13% of routes associated with facilities (7% more than in Alternative A) would be limited to administrative use only (which generally includes grazing operators) and 14 routes (4 miles) or 2% would be closed (6% fewer than in Alternative A). Because Alternative C would close 14 routes or 2% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be negligible, in part, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Routes accessing agency management/monitoring sites: Of the 259 routes that are associated with rangeland management or monitoring areas or sites under Alternative C, 247 routes (494 miles) or over 95% would continue to be managed as open/open with restrictions or limited to administrative use only (4% more than in Alternative A). Because Alternative C would close just 12 routes, at 5% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be negligible, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Routes closed with reclamation: Under Alternative C, no routes would be slated for active, mechanical reclamation (same as Alternative A). However, 18 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 6 acres, 63 fewer acres than Alternative A.

0.6.2.18.4 Alternative D

Routes accessing rangeland facilities: With regard to the 580 routes that are associated with livestock grazing facilities under Alternative D, 241 routes (531 miles) or about 42% would be

open to all motorized uses or open with restrictions (43% fewer than in Alternative A). Additionally, 312 routes (237 miles) or 54% of routes associated with facilities (47% more than in Alternative A) would be limited to administrative use only (which generally includes grazing operators) and 27 routes (35 miles) or 5% would be closed (4% fewer than in Alternative A). Because Alternative D would close 27 routes or 5% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be negligible, in part, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Routes accessing agency management/monitoring sites: Of the 259 routes that are associated with rangeland management or monitoring areas or sites under Alternative D, 247 routes (523 miles) or about 95% would continue to be managed as open/open with restrictions or limited to administrative use only. Because Alternative D would close 14 routes, or about 5% of routes associated with facilities, the direct, long-term effect of these closed routes on the ability of operators to access livestock grazing facilities would be negligible, due to the availability of over 9 out of every 10 existing BLM routes for these activities.

Routes closed with reclamation: Under Alternative D, no routes would be slated for active, mechanical reclamation (same as Alternative A). However, 66 existing BLM routes would be closed and natural reclamation would be allowed to occur. The footprint (actual area of surface disturbance) of these routes would be approximately 73 acres, 47 fewer acres than Alternative A.

O.6.2.19 Recreation and Visitor Services

O.6.2.19.1 Alternative A

Impacts from Route Designations to Recreation

Restricting public motorized access in an area previously known for its excellent vehicle exploring and sightseeing may make it difficult to impossible for visitors to engage in those activities and enjoy the potential experience and benefits opportunities they offer. Conversely, unrestrained and widespread motorized use in an area previously known for its excellent hiking, biking and equestrian opportunities in naturally quiet settings may have the same effects mentioned above for the motorized visitor. Inasmuch as the use of motor vehicles on public routes constitutes the primary means of access to public lands for visitors to engage in a wide variety of motorized and non-motorized recreation activities, the supply and spatial extent of travel access networks for motor vehicles is an important.

Under the No Action Alternative, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions, limited to administrative use only (6%), or closed (10%). The overwhelming majority of routes (about 84%) would be open to all motorized uses (82.8%) or open with special seasonal (0.8%) or vehicular restrictions (0.1%). In the long-term, over 8 out of every 10 existing BLM routes would remain available for access to the TMAs with an average route density of 1.5 open routes per square mile at 1.7 miles per square mile.

Therefore, Alternative A would continue to provide a moderate to high degree of motor vehicle access that would indirectly support, in the long-term, a variety of public recreation activity,

experience and benefit opportunities. The potential for motorized recreation opportunities on a variety of routes would remain even higher in the Mill Creek/Bundy TMA, which has the highest density of open routes at 2.5 routes per square mile and the Shepherd TMA, which has a high of 8.9 miles per square mile of open routes. Additionally, as the potential for new route development is realized with boom cycles in energy exploration and development, the availability of motorized access for public recreation may increase and help disperse use to a minor, short-term extent on a localized basis; such effects would ebb and flow with energy development.

Although Alternative A carries forward closures and restrictions to administrative use only on 143 routes (170 miles) or 16% of the routes, the long-term, direct, localized effect of these restricted routes on reducing or precluding visitors from realizing available recreation activity, experience and benefit opportunities is minor.

Route Types: Motorized recreation occurs in many forms, all of which depend on travel networks that contain routes that are not only open to such uses, but also route types and/or conditions that are more conducive to particular types of motorized recreation. Often the difference between an enjoyable experience and an outstanding experience is linked to the type of route. For example, if visitors are looking for a comfortable, low risk driving experience in mostly natural settings, then a Road (graded and regularly maintained; see glossary) may be the most appropriate type of route for those visitors to have an outstanding experience. However, visitors seeking a challenging, high risk driving experience in the backcountry may find their most outstanding experiences on rough, Primitive Roads or Trails (see glossary).

With regard to route types, of the 877 routes under the No Action Alternative, 50 routes (about 6%) currently classed as “roads” in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 1 route (0.1%) classed as “semi-primitive roads”, 673 routes (76.8%) classed as “primitive roads” and 8 routes (0.9%) classed as ‘trails’ would be open/open with restrictions. Conversely, 1 route (about 0.1%) currently classed as “roads” in the TMAs would be limited to administrative use only or closed, while 14 routes (1.6%) classed as “semi-primitive roads”, 127 routes (14.5%) classed as “primitive roads” and 1 route (0.1%) classed as ‘trails’ would be administrative use only or closed. Visitors seeking more rugged and challenging vehicle exploring experiences would find that the widespread, plentiful supply of “primitive roads” and “trails” under Alternative A would directly support the long-term continuation of their activities to a major degree.

Specific Recreation Activities: While many types of recreation activity opportunities exist on the public lands managed by the Billings Field Office (including hunting, boating, sightseeing, hiking, camping, mountain biking, etc.), several specific activities typically demonstrate greater popularity with the public as reflected in their higher visitation numbers year to year. As has been mentioned above regarding general recreation, motorized access via public travel networks is an important component for visitors’ ability to realize the recreation activity, experience and benefit opportunities afforded on public lands. This would be a critical component for the most popular recreation activities taking place in the TMAs. During the route evaluation process, resource specialists familiar with existing uses and users of the route network in the TMAs documented the primary recreation activities that are typically associated with each route. The following analysis is based on those data.

Under the No Action Alternative, of the 808 routes within the TMAs that are associated with hunting as a primary route use, 686 routes (735 miles) or about 85% would continue to be managed as open/open with restrictions, while 38 routes (38 miles) or about 5% would be limited to administrative use only and 84 routes (80 miles) or 10% would be closed. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 122 routes at 118 miles, the direct, long-term effect of these restricted routes on accessing hunting opportunities would be minor, due to the continued availability of over 8 out of every 10 existing BLM routes currently associated with this activity.

Under the No Action Alternative, of the 293 routes within the TMAs that are associated with archery hunting as a primary route use, 277 routes (252 miles) or about 95% would continue to be managed as open/open with restrictions, while 1 route (2.4 miles) or about 0.3% would be limited to administrative use only and 15 routes (9.6 miles) or 5% would be closed. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 16 routes at 12 miles, the direct, long-term effect of these restricted routes on accessing archery hunting opportunities would be negligible to minor, due to the continued availability of over 9 out of every 10 existing BLM routes currently associated with this activity.

Under the No Action Alternative, of the 252 routes within the TMAs that are associated with vehicle exploring as a primary route use, 228 routes (400 miles) or 90.5% would continue to be managed as open/open with restrictions, while 3 routes (2.6 miles) or about 1.2% would be limited to administrative use only and 21 routes (19.4 miles) or 8.3% would be closed. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 24 routes at 22 miles, the direct, long-term effect of these restricted routes on accessing vehicle exploring opportunities would be negligible to minor, due to the continued availability of over 9 out of every 10 existing BLM routes currently associated with this activity.

Under the No Action Alternative, of the 14 routes within the TMAs that are associated with viewing wild horses, 9 routes (35.8 miles) or about 64% would continue to be managed as open/open with restrictions, while 1 route (2.4 miles) or about 7% would be limited to administrative use only and 4 routes (4.4 miles) or 29% would be closed. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 5 routes at 6.8 miles, the direct, long-term effect of these restricted routes on accessing viewing wild horses opportunities would be minor to moderate, due to the continued availability of over 6 out of every 10 existing BLM routes currently associated with this activity.

Under the No Action Alternative, of the 233 routes within the TMAs that are associated with viewing wildlife, 200 routes (231 miles) or about 85% would continue to be managed as open/open with restrictions, while 27 routes (30.5 miles) or about 12% would be limited to administrative use only and 6 routes (5.6 miles) or 3% would be closed. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 33 routes at 36 miles, the direct, long-term effect of these restricted routes on accessing viewing wildlife opportunities would be minor, due to the continued availability of over 8 out of every 10 existing BLM routes currently associated with this activity.

Recreation Management Areas: As Special Recreation Management Areas (SRMA) are identified in the RMP, each carries with it a set of management objectives targeting specific

activities, experiences and benefits that the BLM would strive to achieve by managing for certain recreation settings that are needed to support the management objectives. Similarly, with Extensive Recreation Management Areas (ERMA), the planning team identifies specific recreation objectives and actions to achieve those objectives, though no particular experience or benefit opportunities are specified. One aspect of managing the settings in SRMAs and more generic activities in ERMAs is routes. More specifically, in relation to travel networks, the availability of access to and through SRMAs and ERMAs is an important factor to the visitor experience.

Under the No Action Alternative, the Acton SRMA would not be allocated. However, the route designations that follow would be for the non-SRMA, custodial recreation management in the same geographic area that would become the Acton SRMA in Alternatives B, C and D. Of the 10 routes associated with this area, 7 routes (7.2 miles) or 70% would continue to be managed as open with restrictions, while no routes would be limited to administrative use only and 3 routes (1.5 miles) or 30% would be closed. Although Alternative A carries forward closures and restrictions to administrative use only on a total of 3 routes at 1.5 miles, the direct, long-term effect of these restricted routes on accessing the general recreation opportunities of this area would be minor, due to the continued availability of 7 out of every 10 existing BLM routes currently associated with this area.

Under the No Action Alternative, the Shepherd SRMA would not be allocated. However, the route designations that follow would be for the non-SRMA, custodial recreation management in the same geographic area that would become the Shepherd SRMA in Alternatives B, C and D. Of the 14 routes associated with this area, 2 routes (53 miles) or 14% would continue to be managed as open or open with restrictions, while 12 routes (13 miles) or 86% would be limited to administrative use only and no routes would be closed. Alternative A carries forward restrictions to administrative use only on a total of 12 routes at 13 miles, as such the continued direct, long-term effect of these restricted routes on accessing the general recreation opportunities of this area would be major, due to the limited availability for the public of just over 1 out of every 10 existing BLM routes currently associated with this area.

Under the No Action Alternative, the Yellowstone River SRMA would not be allocated. However, the route designations that follow would be for the non-SRMA, custodial recreation management in the same geographic area that would become the Yellowstone River SRMA in Alternatives B, C and D. Of the 24 routes associated with this area, 23 routes (15.5 miles) or 96% would continue to be managed as open, while 1 route (0.4 miles) or 4% would be limited to administrative use only and no routes would be closed. Although Alternative A carries forward restrictions to administrative use only on a total of 1 route at 0.4 miles, the direct, long-term effect of these restricted routes on accessing the general recreation opportunities of this area would be negligible, due to the continued availability of over 9 out of every 10 existing BLM routes currently associated with this area.

Under the No Action Alternative, the Pryors ERMA would not be allocated. However, the route designations that follow would be for the non-ERMA, custodial recreation management in the same geographic area that would become the Pryors ERMA in Alternatives B, C and D. Of the 145 routes associated with this area, 60 routes (117 miles) or 41% would continue to be managed as open, while 1 route (2.4 miles) or 0.7% would be limited to administrative use only and 84

routes (104 miles) or 58% routes would be closed. Alternative A carries forward closures and restrictions to administrative use only on a total of 85 routes at 106 miles, as such the direct, long-term effect of these restricted routes on accessing the general recreation opportunities of this area would be moderate, due to the limited availability for the public of just over 4 out of every 10 existing BLM routes currently associated with this area.

Under the No Action Alternative, the Mill Creek/Bundy ERMA would not be allocated. However, the route designations that follow would be for the non-SRMA, custodial recreation management in the same geographic area that would become the Mill Creek/Bundy ERMA in Alternatives B, C and D. Of the 210 routes associated with this area, 196 routes (126 miles) or 93% would continue to be managed as open, while 14 route (15 miles) or 6.7% would be limited to administrative use only and no routes would be closed. Although Alternative A carries forward restrictions to administrative use only on a total of 14 route at 15 miles, the direct, long-term effect of these restricted routes on accessing the general recreation opportunities of this area would be negligible, due to the continued availability of over 9 out of every 10 existing BLM routes currently associated with this area

Under the No Action Alternative, the Horsethief ERMA would not be allocated. However, the route designations that follow would be for the non-ERMA, custodial recreation management in the same geographic area that would become the Horsethief ERMA in Alternatives B, C and D. Of the 45 routes associated with this area, 38 routes (33miles) or 85% would continue to be managed as open, while 5 route (3 miles) or 11% would be limited to administrative use only and 2 routes (2.8 miles) or 4% routes would be closed. Alternative A carries forward closures and restrictions to administrative use only on a total of 7 routes at 6 miles, as such the direct, long-term effect of these restricted routes on accessing the general recreation opportunities of this area would be minor, due to the limited availability for the public of just over 8 out of every 10 existing BLM routes currently associated with this area.

O.6.2.19.2 Alternative B

Impacts from Route Designations to Recreation

Under the Alternative B, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions, limited to administrative use only (25%), or closed (64%). Of the existing routes, very few (about 10%) would be open to all motorized uses (9.2%) or open with special seasonal (0.7%) or vehicular restrictions (0.3%). This would result in 73% fewer open routes in Alternative B than would be open in Alternative A. In the long-term, about 1 out of every 10 existing BLM routes would remain available for access to the TMAs with the average route density reduced by 88% for the long-term to 0.2 open routes per square mile and reduced by 58% to 0.7 miles of open routes per square mile. Therefore, Alternative B would provide a minor degree of motor vehicle access that would indirectly support, in the long-term, a variety of public recreation activity, experience and benefit opportunities.

The potential for motorized recreation opportunities on a variety of routes would be reduced dramatically in the Mill Creek/Bundy TMA by 93% for the long-term to 0.2 open routes per square mile and reduced only slightly in the Shepherd TMA by 19% to 7.2 miles of open routes per square mile.

Alternative B carries forward closures and restrictions to administrative use only on 785 routes (644 miles) or 90% of the routes, which is a 73% increase from these designations in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing or precluding visitors from realizing available recreation activity, experience and benefit opportunities is major.

Route Types: With regard to route types, of the 877 routes under the Alternative B, 29 routes (about 2% fewer than Alternative A) currently classed as “roads” in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 1 route (same as Alternative A) classed as “semi-primitive roads”, 56 routes (70% fewer than Alternative A) classed as “primitive roads” and 2 routes (0.7% fewer than Alternative A) classed as ‘trails’ would be open/open with restrictions. Conversely, 22 routes (about 2.4% more than Alternative A) currently classed as “roads” in the TMAs would be limited to administrative use only or closed, while 14 routes (same as Alternative A) classed as “semi-primitive roads”, 742 routes (70% more than Alternative A) classed as “primitive roads” and 7 routes (0.7% more than Alternative A) classed as ‘trails’ would be administrative use only or closed. Visitors seeking more rugged and challenging vehicle exploring experiences would find that the drastically reduced supply of “primitive roads” and “trails” under Alternative B would directly support the long-term continuation of their activities only to a minor degree.

Specific Recreation Activities: Under the Alternative B, of the 808 routes within the TMAs that are associated with hunting as a primary route use, 88 routes (286 miles) or about 11% would continue to be managed as open/open with restrictions, while 209 routes (238 miles) or about 26% would be limited to administrative use only and 511 routes (333 miles) or 63% would be closed. This would result in 74% fewer open routes in Alternative B available for hunting than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 720 routes at 567 miles. The direct, long-term effect of these restricted routes on accessing hunting opportunities would be major, due to the drastically reduced availability to just over 1 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative B, of the 293 routes within the TMAs that are associated with archery hunting as a primary route use, 29 routes (78 miles) or about 10% would continue to be managed as open/open with restrictions, while 66 routes (69 miles) or about 23% would be limited to administrative use only and 198 routes (117 miles) or 68% would be closed. This would result in 85% fewer open routes in Alternative B available for archery hunting than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 264 routes at 186 miles. The direct, long-term effect of these restricted routes on accessing archery hunting opportunities would be major, due to drastically reducing availability to 1 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative B, of the 252 routes within the TMAs that are associated with vehicle exploring as a primary route use, 64 routes (258 miles) or 25% would continue to be managed as open/open with restrictions, while 65 routes (82 miles) or about 26% would be limited to administrative use only and 123 routes (82 miles) or 49% would be closed. This would result in 65% fewer open routes in Alternative B available for vehicle exploring than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only

on a total of 188 routes at 164 miles. The direct, long-term effect of these restricted routes on accessing vehicle exploring opportunities would be major, due to drastically reducing availability to just over 2 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative B, of the 14 routes within the TMAs that are associated with viewing wild horses, 6 routes (31 miles) or about 43% would continue to be managed as open/open with restrictions, while 2 routes (3.3 miles) or about 14% would be limited to administrative use only and 6 routes (8 miles) or 43% would be closed. This would result in 21% fewer open routes in Alternative B available for viewing wild horses than would be open in Alternative A.

Alternative B would designate closures and restrictions to administrative use only on a total of 8 routes at 11 miles. The direct, long-term effect of these restricted routes on accessing viewing wild horses opportunities would be moderate, due to reducing availability to just over 4 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative B, of the 233 routes within the TMAs that are associated with viewing wildlife, 32 routes (108 miles) or about 14% would continue to be managed as open/open with restrictions, while 81 routes (94 miles) or about 35% would be limited to administrative use only and 120 routes (65 miles) or 52% would be closed. This would result in 72% fewer open routes in Alternative B available for viewing wildlife than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 201 routes at 159 miles. The direct, long-term effect of these restricted routes on accessing viewing wildlife opportunities would be major, due to drastically reducing availability to just over 1 out of every 10 existing BLM routes currently associated with this activity.

Recreation Management Areas: Under the Alternative B, the Acton SRMA would be allocated. Of the 10 routes associated with this area, 3 routes (5.1 miles) or 30% would continue to be managed as open with restrictions, while no routes would be limited to administrative use only and 7 routes (3.5 miles) or 70% would be closed. This would result in 40% fewer open routes in Alternative B available for accessing the targeted recreation opportunities in the SRMA than would be open in Alternative A. Although Alternative B would close a total of 7 routes at 3.5 miles, the direct, long-term effect of these restricted routes on accessing the targeted recreation opportunities of the SRMA would be moderate to major, due to reducing access to just 3 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative B, the Shepherd SRMA would be allocated. Of the 14 routes associated with this area, 2 routes (53 miles) or 14% would continue to be managed as open or open with restrictions, while 8 routes (11 miles) or 57% would be limited to administrative use only and 4 routes (3 miles) or 29% would be closed. This would result in no change from Alternative A in the number or mileage of open routes in Alternative B available for accessing targeted recreation opportunities in the SRMA. Alternative B would designate closures and restrictions to administrative use only a total of 12 routes at 13 miles. The continued direct, long-term effect of these restricted routes on accessing the targeted recreation opportunities of the SRMA would be major (like Alternative A), due to the limiting public access to just over 1 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative B, the Yellowstone River SRMA would be allocated. Of the 24 routes associated with this area, 5 routes (5 miles) or 21% would continue to be managed as open, while 6 route (5 miles) or 25% would be limited to administrative use only and 13 routes (6 miles) or 54% would be closed. This would result in 75% fewer open routes in Alternative B available for accessing targeted recreation opportunities in the SRMA than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 19 route at 11 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the SRMA would be moderate to major, due to drastically reducing accessibility to just over 2 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative B, the Pryors ERMA would be allocated. Of the 145 routes associated with this area, 23 routes (78 miles) or 16% would continue to be managed as open, while 25 routes (26 miles) or 17% would be limited to administrative use only and 97 routes (119 miles) or 67% routes would be closed. This would result in 26% fewer open routes in Alternative B available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 122 routes at 146 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be moderate to major, due to drastically reducing accessibility to 1.6 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative B, the Mill Creek/Bundy ERMA would be allocated. Of the 210 routes associated with this area, 13 routes (20 miles) or 6.2% would continue to be managed as open, while 56 routes (54 miles) or 27% would be limited to administrative use only and 141 routes (68 miles) or 67% would be closed. This would result in 87% fewer open routes in Alternative B available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 197 routes at 112 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be major, due to drastically reducing access to less than 1 out of every 10 existing BLM routes currently associated with this area

Under the Alternative B, the Horsethief ERMA would not be allocated. Of the 45 routes associated with this area, 6 routes (12 miles) or 13% would continue to be managed as open, while 15 route (14 miles) or 33% would be limited to administrative use only and 24 routes (12.7 miles) or 53% routes would be closed. This would result in 71% fewer open routes in Alternative B available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative B would designate closures and restrictions to administrative use only on a total of 39 routes at 27 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be major, due to drastically reducing access to 1 out of every 10 existing BLM routes currently associated with this area.

O.6.2.19.3 Alternative C

Impacts from Route Designations to Recreation

Under the Alternative C, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions, limited to administrative use only (14%), or closed (2.5%). The overwhelming majority of routes (about 84%) would be open to all motorized uses (82.9%) or open with special seasonal (0.1%) or vehicular restrictions (0.8%). This would result in 0.1% more open routes in Alternative C than would be open in Alternative A. In the long-term, over 8 out of every 10 existing BLM routes would remain available for access to the TMAs with the average route density of open routes per square mile remaining the same as Alternative A at 1.5 and the miles of open routes per square mile increased by 8.8% to 1.8. Therefore, Alternative C would provide a major degree of motor vehicle access (slightly more than under current management) that would indirectly support, in the long-term, a variety of public recreation activity, experience and benefit opportunities.

The potential for motorized recreation opportunities on a variety of routes would be reduced somewhat in the Mill Creek/Bundy TMA by 27% for the long-term to 1.9 open routes per square mile and reduced only slightly in the Shepherd TMA by 7% to 8.3 miles of open routes per square mile. Alternative C carries forward closures and restrictions to administrative use only on 142 routes (97 miles) or 16% of the routes, which is a 0.1% decrease from these designations in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing or precluding visitors from realizing available recreation activity, experience and benefit opportunities is negligible to minor.

Route Types: With regard to route types, of the 877 routes under the Alternative C, 50 routes (same as Alternative A) currently classed as “roads” in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 12 routes (1.3% fewer than Alternative A) classed as “semi-primitive roads”, 664 routes (1% fewer than Alternative A) classed as “primitive roads” and 7 routes (0.1% fewer than Alternative A) classed as ‘trails’ would be open/open with restrictions. Conversely, 1 route (same as Alternative A) currently classed as “roads” in the TMAs would be limited to administrative use only or closed, while 3 routes (1.2% fewer than Alternative A) classed as “semi-primitive roads”, 136 routes (1% more than Alternative A) classed as “primitive roads” and 2 routes (0.1% more than Alternative A) classed as ‘trails’ would be administrative use only or closed. Visitors seeking more rugged and challenging vehicle exploring experiences would find that the widespread, plentiful supply of “primitive roads” and “trails” under Alternative C would directly support the long-term continuation of their activities to a major degree.

Specific Recreation Activities: Under the Alternative C, of the 808 routes within the TMAs that are associated with hunting as a primary route use, 684 routes (769 miles) or about 85% would continue to be managed as open/open with restrictions, while 106 routes (80 miles) or about 13% would be limited to administrative use only and 18 routes (5 miles) or 2% would be closed. This would result in 0.2% fewer open routes in Alternative C available for hunting than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 124 routes at 84 miles. The direct, long-term effect of these restricted routes on accessing hunting opportunities would be negligible to minor, due to the remaining availability of over 8 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative C, of the 293 routes within the TMAs that are associated with archery hunting as a primary route use, 225 routes (234 miles) or about 77% would continue to be managed as open/open with restrictions, while 56 routes (28 miles) or about 19% would be limited to administrative use only and 12 routes (3 miles) or 4% would be closed. This would result in 18% fewer open routes in Alternative C available for archery hunting than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 68 routes at 31 miles. The direct, long-term effect of these restricted routes on accessing archery hunting opportunities would be minor, due to the availability of over 7 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative C, of the 252 routes within the TMAs that are associated with vehicle exploring as a primary route use, 211 routes (401 miles) or 84% would continue to be managed as open/open with restrictions, while 33 routes (19 miles) or about 13% would be limited to administrative use only and 8 routes (2 miles) or 3% would be closed. This would result in 7% fewer open routes in Alternative C available for vehicle exploring than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 41 routes at 21 miles. The direct, long-term effect of these restricted routes on accessing vehicle exploring opportunities would be negligible to minor, due to the availability of just over 8 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative C, of the 14 routes within the TMAs that are associated with viewing wild horses, 8 routes (35 miles) or about 57% would continue to be managed as open/open with restrictions, while 6 routes (8 miles) or about 43% would be limited to administrative use only and no routes would be closed. This would result in 7% fewer open routes in Alternative C available for viewing wild horses than would be open in Alternative A. Alternative C would designate restrictions to administrative use only on a total of 6 routes at 8 miles. The direct, long-term effect of these restricted routes on accessing viewing wild horses opportunities would be minor to moderate, due to the availability of almost 6 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative C, of the 233 routes within the TMAs that are associated with viewing wildlife, 190 routes (233 miles) or about 82% would continue to be managed as open/open with restrictions, while 34 routes (32 miles) or about 15% would be limited to administrative use only and 9 routes (2 miles) or 4% would be closed. This would result in 4% fewer open routes in Alternative C available for viewing wildlife than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 43 routes at 34 miles. The direct, long-term effect of these restricted routes on accessing viewing wildlife opportunities would be negligible to minor, due to the availability of just over 8 out of every 10 existing BLM routes currently associated with this activity.

Recreation Management Areas: Under the Alternative c, the Acton SRMA would be allocated. Of the 10 routes associated with this area, 10 routes (8.6 miles) or 100% would continue to be managed as open, while no routes would be limited to administrative use only or closed. This would result in 30% more open routes in Alternative C available for accessing the targeted recreation opportunities in the SRMA than would be open in Alternative A. With no restrictions or closures, the direct, long-term effect of all open routes on accessing the targeted recreation

opportunities of the SRMA would be moderate, due to increasing access to 10 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative C, the Shepherd SRMA would be allocated. Of the 14 routes associated with this area, 11 routes (62 miles) or 79% would continue to be managed as open or open with restrictions, while 3 routes (4 miles) or 21% would be limited to administrative use only and no routes would be closed. This would result in 64% more open routes in Alternative C available for accessing the targeted recreation opportunities in the SRMA than would be open in Alternative A. Although Alternative C would restrict to administrative use only a total of 3 routes at 4 miles, the direct, long-term effect of these restricted routes on accessing the targeted recreation opportunities of the SRMA would be negligible to minor, due to the availability for public use of just under 8 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative C, the Yellowstone River SRMA would be allocated. Of the 24 routes associated with this area, all route designations and estimated impacts would be the same as Alternative A. Under the Alternative C, the Pryors ERMA would be allocated. Of the 145 routes associated with this area, 115 routes (192 miles) or 79% would continue to be managed as open, while 27 routes (30 miles) or 19% would be limited to administrative use only and 3 routes (1.3 miles) or 2% routes would be closed. This would result in 38% more open routes in Alternative C available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 30 routes at 32 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be negligible to minor, due to the availability for public use of almost 8 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative C, the Mill Creek/Bundy ERMA would be allocated. Of the 210 routes associated with this area, 144 routes (108 miles) or 69% would continue to be managed as open, while 54 routes (31 miles) or 26% would be limited to administrative use only and 12 routes (3 miles) or 6% would be closed. This would result in 25% fewer open routes in Alternative C available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 66 routes at 34 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be minor, due to the availability for public use of almost 7 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative C, the Horsethief ERMA would not be allocated. Of the 45 routes associated with this area, 42 routes (37 miles) or 93% would continue to be managed as open, while 2 route (1 mile) or 4% would be limited to administrative use only and 1 routes (0.1 miles) or 2% routes would be closed. This would result in 9% more open routes in Alternative C available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative C would designate closures and restrictions to administrative use only on a total of 3 routes at 1.1 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be negligible, due to the availability for public use of over 9 out of every 10 existing BLM routes currently associated with this area.

0.6.2.19.4 Alternative D

Under the Alternative D, the overall network of 877 existing BLM routes (993 miles) within the eleven TMAs would continue to be managed as open/open with restrictions, limited to administrative use only (51%), or closed (9%). Of the existing routes, less than half (about 40%) would be open to all motorized uses (37.9%) or open with special seasonal (1.3%) or vehicular restrictions (0.6%). This would result in 44% fewer open routes in Alternative D than would be open in Alternative A. In the long-term, about 4 out of every 10 existing BLM routes would remain available for access to the TMAs with the average route density reduced by 53% for the long-term to 0.7 open routes per square mile and reduced by 25% to 1.2 miles of open routes per square mile. Therefore, Alternative D would provide a moderate degree of motor vehicle access that would indirectly support, in the long-term, a variety of public recreation activity, experience and benefit opportunities.

The potential for motorized recreation opportunities on a variety of routes would be reduced dramatically in the Mill Creek/Bundy TMA by 69% for the long-term to 0.8 open routes per square mile and reduced only slightly in the Shepherd TMA by 19% to 7.2 miles of open routes per square mile.

Alternative D carries forward closures and restrictions to administrative use only on 529 routes (379 miles) or 60% of the routes, which is a 44% increase from these designations in Alternative A. The long-term, direct, localized effect of these restricted routes on reducing or precluding visitors from realizing available recreation activity, experience and benefit opportunities is moderate.

Route Types: With regard to route types, of the 877 routes under the Alternative D, 40 routes (about 1.1% fewer than Alternative A) currently classed as “roads” in the TMAs would be open to all types of motor vehicle use or open with restrictions, while 4 routes (0.3% more than Alternative A) classed as “semi-primitive roads”, 298 routes (about 43% fewer than Alternative A) classed as “primitive roads” and 4 routes (0.5% fewer than Alternative A) classed as “trails” would be open/open with restrictions. Conversely, 11 routes (about 1.1% more than Alternative A) currently classed as “roads” in the TMAs would be limited to administrative use only or closed, while 11 routes (0.4% fewer than Alternative A) classed as “semi-primitive roads”, 502 routes (43% more than Alternative A) classed as “primitive roads” and 5 routes (0.4% more than Alternative A) classed as “trails” would be administrative use only or closed. Visitors seeking more rugged and challenging vehicle exploring experiences would find that the supply of “primitive roads” and “trails” under Alternative D would directly support the long-term continuation of their activities only to a moderate degree.

Specific Recreation Activities: Under the Alternative D, of the 808 routes within the TMAs that are associated with hunting as a primary route use, 326 routes (534 miles) or about 40% would continue to be managed as open/open with restrictions, while 423 routes (292 miles) or about 52% would be limited to administrative use only and 59 routes (27 miles) or 7% would be closed. This would result in 45% fewer open routes in Alternative D available for hunting than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 482 routes at 319 miles. The direct, long-term effect of these

restricted routes on accessing hunting opportunities would be moderate, due to reducing availability to just 4 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative D, of the 293 routes within the TMAs that are associated with archery hunting as a primary route use, 109 routes (172 miles) or about 37% would continue to be managed as open/open with restrictions, while 156 routes (82 miles) or about 53% would be limited to administrative use only and 28 routes (11 miles) or 10% would be closed. This would result in 57% fewer open routes in Alternative D available for archery hunting than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 184 routes at 92 miles. The direct, long-term effect of these restricted routes on accessing archery hunting opportunities would be moderate, due to reducing availability to almost 4 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative D, of the 252 routes within the TMAs that are associated with vehicle exploring as a primary route use, 160 routes (374 miles) or 64% would continue to be managed as open/open with restrictions, while 75 routes (41 miles) or about 30% would be limited to administrative use only and 17 routes (6 miles) or 7% would be closed. This would result in 27% fewer open routes in Alternative D available for vehicle exploring than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 92 routes at 48 miles. The direct, long-term effect of these restricted routes on accessing vehicle exploring opportunities would be minor to moderate, due to reducing availability to just over 6 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative D, of the 14 routes within the TMAs that are associated with viewing wild horses, 7 routes (33 miles) or about 50% would continue to be managed as open/open with restrictions, while 5 routes (6 miles) or about 36% would be limited to administrative use only and 2 routes (3 miles) or 14% would be closed. This would result in 14% fewer open routes in Alternative D available for viewing wild horses than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 7 routes at 9 miles. The direct, long-term effect of these restricted routes on accessing viewing wild horses opportunities would be moderate, due to reducing availability to 5 out of every 10 existing BLM routes currently associated with this activity.

Under the Alternative D, of the 233 routes within the TMAs that are associated with viewing wildlife, 94 routes (179 miles) or about 40% would continue to be managed as open/open with restrictions, while 120 routes (79 miles) or about 52% would be limited to administrative use only and 19 routes (9 miles) or 8% would be closed. This would result in 46% fewer open routes in Alternative D available for viewing wildlife than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 139 routes at 88 miles. The direct, long-term effect of these restricted routes on accessing viewing wildlife opportunities would be major, due to drastically reducing availability to just over 4 out of every 10 existing BLM routes currently associated with this activity.

Recreation Management Areas: Under the Alternative D, the Acton SRMA would be allocated. Of the 10 routes associated with this area, 6 routes (7 miles) or 60% would continue to be

managed as open with restrictions, while 3 routes (1.1 miles) or 30% would be limited to administrative use only and 1 route (0.8 miles) or 10% would be closed. This would result in 10% fewer open routes in Alternative D available for accessing the targeted recreation opportunities in the SRMA than would be open in Alternative A. Although Alternative D would restrict to administrative use only or close a total of 4 routes at 1.9 miles, the direct, long-term effect of these restricted routes on accessing the targeted recreation opportunities of the SRMA would be minor to moderate, due to reducing access to 6 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative D, the Shepherd SRMA would be allocated. Of the 14 routes associated with this area, 2 routes (53 miles) or 14% would continue to be managed as open or open with restrictions (the same as Alternative A), while 9 routes (11 miles) or 64% would be limited to administrative use only and 3 routes (1.8 miles) or 21% would be closed. This would result in no change from Alternative A in the number or mileage of open routes in Alternative D available for accessing targeted recreation opportunities in the SRMA. Alternative D would designate closures and restrictions to administrative use only a total of 12 routes at 13 miles. The continued direct, long-term effect of these restricted routes on accessing the targeted recreation opportunities of the SRMA would be major (like Alternative A), due to the limiting public access to just over 1 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative D, the Yellowstone River SRMA would be allocated. Of the 24 routes associated with this area, 12 routes (11.5 miles) or 50% would continue to be managed as open, while 9 route (3.6 miles) or 38% would be limited to administrative use only and 3 routes (0.8 miles) or 13% would be closed. This would result in 46% fewer open routes in Alternative D available for accessing targeted recreation opportunities in the SRMA than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 12 routes at 4.4 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the SRMA would be moderate to major, due to drastically reducing accessibility to 5 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative D, the Pryors ERMA would be allocated. Of the 145 routes associated with this area, 68 routes (128 miles) or 47% would continue to be managed as open, while 60 routes (59.4 miles) or 41% would be limited to administrative use only and 17 routes (36 miles) or 12% routes would be closed. This would result in 5.6% more open routes in Alternative D available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 77 routes at 96 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be minor to moderate, due to limiting accessibility to slightly less than 5 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative D, the Mill Creek/Bundy ERMA would be allocated. Of the 210 routes associated with this area, 61 routes (68 miles) or 29% would continue to be managed as open, while 129 routes (68 miles) or 61% would be limited to administrative use only and 20 routes (6 miles) or 10% would be closed. This would result in 64% fewer open routes in Alternative D available for accessing general recreation opportunities in the ERMA than would be open in

Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 149 routes at 73 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be major, due to drastically reducing access to less than 3 out of every 10 existing BLM routes currently associated with this area.

Under the Alternative D, the Horsethief ERMA would not be allocated. Of the 45 routes associated with this area, 17 routes (22.5 miles) or 38% would continue to be managed as open, while 25 route (14 miles) or 56% would be limited to administrative use only and 3 routes (1.9 miles) or 7% routes would be closed. This would result in 47% fewer open routes in Alternative D available for accessing general recreation opportunities in the ERMA than would be open in Alternative A. Alternative D would designate closures and restrictions to administrative use only on a total of 28 routes at 16 miles. The direct, long-term effect of these restricted routes on accessing the general recreation opportunities of the ERMA would be moderate, due to drastically reducing access to less than 4 out of every 10 existing BLM routes currently associated with this area.

O.6.2.20 Special Designations - ACECs

O.6.2.20.1 Alternative A

This section presents the potential impacts of route designations on Areas of Critical Environmental Concern (ACECs), as proposed; specifically the potential for elements of travel management to create or perpetuate impacts to resource values documented as relevant and important within these areas. Potential restrictions to public motorized access in areas known for their important biological, cultural or paleontological resources are evaluated, as they may support or complement BLMs strategies and management objectives aimed at protecting these resources. More directly, in relation to travel networks, the availability of access to and through ACECs is an important factor to the managing and protecting these resources in the long-term.

All ACECs: Regarding motorized access in, through, or proximate to (within 0.6 miles) all ACECs in the TMAs, under the No Action Alternative, the overall network of 94 existing BLM routes (114 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (18%), or closed (14%). The majority of routes (about 68%) would be open to all motorized uses, with no special seasonal or vehicular restrictions. In the long-term, almost 7 out of every 10 existing BLM routes would remain available for public access in, through, or proximate to the ACECs. With 68% of existing routes potentially open and only 32% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be minor to moderate (43 CFR 8342.1(a)(d)).

Of the overall network of 28 portal routes that access the ACECs in the TMAs under the No Action Alternative, 22 existing BLM routes (about 79% of all portal routes) would continue to be managed as open to all motorized uses, with no special seasonal or vehicular restrictions. Of the remaining routes, 2 routes would be limited to administrative use only (7%), 4 routes (14%) would be limited to administrative use only with public non-motorized use allowed, and no

routes would be closed. In the long-term, almost 8 out of every 10 existing portal routes would remain available for public access to the ACECs. With 79% of existing routes potentially open and only 21% potentially limited to administrative use only, the widespread, long-term effect of these route designations on reducing public motorized access to ACECs and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be minor (43 CFR 8342.1(a)(d)).

Cultural ACECs: This section evaluates motorized access in, through or proximate to (within 0.6 miles) all cultural ACECs in the TMAs with cultural resources documented as relevant and important. Under the No Action Alternative, the overall network of 47 existing BLM routes (47 miles) would continue to be managed as open/open with restrictions, limited to administrative use only (34%), or closed (6%). The majority of routes (about 60%) would be open to all motorized uses, with no special seasonal or vehicular restrictions. In the long-term, 6 out of every 10 existing BLM routes would remain available for public access in, through, or proximate to the cultural ACECs. With 6% of existing routes potentially open and only 40% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the cultural ACECs would be moderate (43 CFR 8342.1(a)(d)).

Of the overall network of 15 portal routes that access the ACECs in the TMAs with relevant and important cultural values under the No Action Alternative, 9 existing BLM routes (about 60% of all portal routes) would continue to be managed as open to all motorized uses, with no special seasonal or vehicular restrictions. Of the remaining routes, 2 routes would be limited to administrative use only (13%), 4 routes (27%) would be limited to administrative use only with public non-motorized use allowed, and no routes would be closed. In the long-term, 6 out of every 10 existing portal routes would remain available for public access to the cultural ACECs. With 60% of existing routes potentially open and only 40% potentially limited to administrative use only, the widespread, long-term effect of these route designations on reducing public motorized access to ACECs and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be moderate (43 CFR 8342.1(a)(d)).

O.6.2.20.2 Alternative B

Impacts from Route Designations to Areas of Critical Environmental Concern (ACEC)

All ACECs: Regarding motorized access in, through, or proximate (within 0.6 miles) to all ACECs in the TMAs, under Alternative B, the overall network of 135 existing BLM routes (158 miles) would be managed as 12% open/open with seasonal restrictions (about 56% fewer than Alternative A), 17% limited to administrative use only (1% fewer than Alternative A), and 71% closed (about 57% more than Alternative A). In the long-term, just over 1 out of every 10 existing BLM routes would be available for public access in, through, or proximate to the ACECs. With only 12% of existing routes potentially open and only 88% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be major (43 CFR 8342.1(a)(d)).

Of the overall network of 65 portal routes that access the ACECs in the TMAs under Alternative B, 10 existing BLM routes (about 15% of all portal routes) would be open (about 63% fewer than Alternative A). Only 11% would be open to all motorized uses (about 68% fewer than Alternative A), and 5% would be open with special seasonal restrictions (about 5% more than Alternative A). Of the remaining routes, 11 routes (17%) would be limited to administrative use only (about 10% more than Alternative A), no routes would be limited to administrative use only with public non-motorized use allowed (about 14% fewer than Alternative A), and 44 routes (68%) would be closed (68% more than Alternative A). In the long-term, 1.5 out of every 10 existing portal routes would be available for public access to the ACECs. With 15% of existing routes potentially open and 85% potentially limited to administrative use only or closed, the widespread, long-term effect of these route designations on reducing public motorized access to ACECs and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be major (43 CFR 8342.1(a)(d)).

Cultural ACECs: This section evaluates motorized access in, through or proximate to (within 0.6 miles) all cultural ACECs in the TMAs with cultural resources documented as relevant and important. Under the Alternative B, the overall network of 50 existing BLM routes (50 miles) would be managed for 0 routes open to all motorized uses (60% fewer than Alternative A), 8% open with vehicle restrictions (about 8% more than Alternative A), 12% limited to administrative use only (8% more than Alternative A), 0 routes limited to administrative use only with public non-motorized use allowed (about 30% fewer than Alternative A), and 80% closed (about 74% more than Alternative A). In the long-term, just under 1 out of every 10 existing BLM routes would be available (with vehicle restrictions) for public access in, through, or proximate to the cultural ACECs. With not quite 1% of existing routes potentially open and only 92% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the cultural ACECs would be major (43 CFR 8342.1(a)(d)).

Of the overall network of 19 portal routes that access the cultural ACECs in the TMAs under Alternative B, 2 existing BLM routes (about 11% of all portal routes) would be open (about 50% fewer than Alternative A). Of the remaining routes, 2 routes (11%) would be limited to administrative use only (about 3% fewer than Alternative A), no routes would be limited to administrative use only with public non-motorized use allowed (about 27% fewer than Alternative A), and 15 routes (78%) would be closed (79% more than Alternative A). In the long-term, just over 1 out of every 10 existing portal routes would be available for public access to the cultural ACECs. With 11% of existing routes potentially open and 89% potentially limited to administrative use only or closed, the widespread, long-term effect of these route designations on reducing public motorized access to cultural ACECs and its potential for direct and indirect impacts to relevant and important resource values in the cultural ACECs would be major (43 CFR 8342.1(a)(d)).

O.6.2.20.3 Alternative C

Impacts from Route Designations to Areas of Critical Environmental Concern (ACEC)

All ACECs: Regarding motorized access in, through, or proximate (within 0.6 miles) to all ACECs in the TMAs, under Alternative C, the overall network of 205 existing BLM routes (259

miles) would be managed as 79% open/open with seasonal restrictions (about 11% more than Alternative A), 19% limited to administrative use only (0.9% more than Alternative A), and 2% closed (about 12% fewer than Alternative A). In the long-term, about 8 out of every 10 existing BLM routes would be available for public access in, through, or proximate to the ACECs. With 79% of existing routes potentially open and only 21% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be minor (43 CFR 8342.1(a)(d)).

Of the overall network of 86 portal routes that access the ACECs in the TMAs under Alternative C, 70 existing BLM routes (about 81% of all portal routes) would be open (about 3% fewer than Alternative A). Just over 81% would be open to all motorized uses (about 1.7% more than Alternative A), and 1.2% would be open with special seasonal restrictions (about 1.2% more than Alternative A). Of the remaining routes, 15 routes (17%) would be limited to administrative use only (about 10% more than Alternative A), no routes would be limited to administrative use only with public non-motorized use allowed (about 14% fewer than Alternative A), and 1 routes (1.2%) would be closed (1.2% more than Alternative A). In the long-term, 8 out of every 10 existing portal routes would be available for public access to the ACECs. With 81% of existing routes potentially open and 19% potentially limited to administrative use only or closed, the widespread, long-term effect of these route designations on reducing public motorized access to ACECs and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be minor (43 CFR 8342.1(a)(d)).

Cultural ACECs: This section evaluates motorized access in, through or proximate to (within 0.6 miles) all cultural ACECs in the TMAs with cultural resources documented as relevant and important. Under the Alternative C, the overall network of 91 existing BLM routes (84 miles) would be managed for 88% open to all motorized uses (28% more than Alternative A), 12% limited to administrative use only (8% more than Alternative A), 0 routes limited to administrative use only with public non-motorized use allowed (about 30% fewer than Alternative A), and no routes closed (about 6% fewer than Alternative A). In the long-term, just under 9 out of every 10 existing BLM routes would be available for public access in, through, or proximate to the cultural ACECs. With 88% of existing routes potentially open and only 12% potentially limited to administrative use only to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the cultural ACECs would be minor (43 CFR 8342.1(a)(d)).

Of the overall network of 29 portal routes that access the cultural ACECs in the TMAs under Alternative C, 25 existing BLM routes (about 86% of all portal routes) would be open (about 26% more than Alternative A). Of the remaining routes, 4 routes (14%) would be limited to administrative use only (about 0.5% more than Alternative A), no routes would be limited to administrative use only with public non-motorized use allowed (about 27% fewer than Alternative A), and no routes would be closed (no change from Alternative A). In the long-term, over 8 out of every 10 existing portal routes would be available for public access to the cultural ACECs. With 86% of existing routes potentially open and 14% potentially limited to administrative use only or closed, the widespread, long-term effect of these route designations on reducing public motorized access to cultural ACECs and its potential for direct and indirect

impacts to relevant and important resource values in the cultural ACECs would be minor (43 CFR 8342.1(a)(d)).

O.6.2.20.4 Alternative D

Impacts from Route Designations to Areas of Critical Environmental Concern (ACEC)

All ACECs: Regarding motorized access in, through, or proximate (within 0.6 miles) to all ACECs in the TMAs, under Alternative D, the overall network of 188 existing BLM routes (232 miles) would be managed as 32% open/open with seasonal restrictions (about 36% fewer than Alternative A), 54% limited to administrative use only (36% more than Alternative A), and 13% closed (about 1% fewer than Alternative A). In the long-term, just over 3 out of every 10 existing BLM routes would be available for public access in, through, or proximate to the ACECs. With only 32% of existing routes potentially open and only 68% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be moderate to major (43 CFR 8342.1(a)(d)).

Of the overall network of 81 portal routes that access the ACECs in the TMAs under Alternative D, 35 existing BLM routes (about 43% of all portal routes) would be open (about 35% fewer than Alternative A). Only 38% would be open to all motorized uses (about 40% fewer than Alternative A), 1% would be open with vehicle restrictions (about 1% more than Alternative A), and 4% would be open with special seasonal restrictions (about 4% more than Alternative A). Of the remaining routes, 39 routes (48%) would be limited to administrative use only (about 41% more than Alternative A), no routes would be limited to administrative use only with public non-motorized use allowed (about 14% fewer than Alternative A), and 7 routes (9%) would be closed (9% more than Alternative A). In the long-term, 4 out of every 10 existing portal routes would be available for public access to the ACECs. With 43% of existing routes potentially open and 57% potentially limited to administrative use only or closed, the widespread, long-term effect of these route designations on reducing public motorized access to ACECs and its potential for direct and indirect impacts to relevant and important resource values in the ACECs would be moderate to major (43 CFR 8342.1(a)(d)).

Cultural ACECs: This section evaluates motorized access in, through or proximate to (within 0.6 miles) all cultural ACECs in the TMAs with cultural resources documented as relevant and important. Under the Alternative D, the overall network of 90 existing BLM routes (83 miles) would be managed for 31% open to all motorized uses (29% fewer than Alternative A), and no routes open with seasonal or vehicle restrictions (same as Alternative A), 54% limited to administrative use only (50% more than Alternative A), 0 routes limited to administrative use only with public non-motorized use allowed (about 30% fewer than Alternative A), and 14% closed (about 8% more than Alternative A). In the long-term, just over 3 out of every 10 existing BLM routes would be available for public access in, through, or proximate to the cultural ACECs. With just over 31% of existing routes potentially open and only 69% potentially limited to administrative use only or closed to motor vehicle use, the widespread, long-term effect of these route restrictions on reducing public motorized access and its potential for direct and indirect impacts to relevant and important resource values in the cultural ACECs would be moderate to major (43 CFR 8342.1(a)(d)).

Of the overall network of 27 portal routes that access the cultural ACECs in the TMAs under Alternative D, 11 existing BLM routes (about 41% of all portal routes) would be open (about 19% fewer than Alternative A). Of the remaining routes, 15 routes (56%) would be limited to administrative use only (about 42% more than Alternative A), no routes would be limited to administrative use only with public non-motorized use allowed (about 27% fewer than Alternative A), and 1 route (4%) would be closed (4% more than Alternative A). In the long-term, just over 4 out of every 10 existing portal routes would be available for public access to the cultural ACECs. With 41% of existing routes potentially open and 59% potentially limited to administrative use only or closed, the widespread, long-term effect of these route designations on reducing public motorized access to cultural ACECs and its potential for direct and indirect impacts to relevant and important resource values in the cultural ACECs would be moderate to major (43 CFR 8342.1(a)(d)).

O.6.2.21 Wild and Scenic Rivers

O.6.2.21.1 Alternative A

This section presents the potential impacts of route designations on lands that have been evaluated and found to be eligible for designation as Wild and Scenic Rivers. Specifically, route designations have the potential to impact identified outstandingly remarkable values associated with the eligible river segments by providing motorized access to or proximate to these areas; access that carries with it the potential for illegal, off-road use that can impact those values. Of the 6 routes accessing WSR-eligible segments, under the No Action Alternative, 4 routes (4 miles) or 67% would continue to be managed as open, while no routes would be limited to administrative use only and 2 routes (0.8 miles) or 33% routes would be closed. The potential indirect, long-term effect of the open routes on outstandingly remarkable values of the WSR-eligible areas would be minor, as signing, appropriate barriers, and regular monitoring would deter illegal, off-road travel, minimizing the potential for damaging or adversely affecting those natural values (43 CFR 8342.1(a)(d)).

Of the 7 routes that follow WSR-eligible boundaries in the TMAs, under the No Action Alternative, 4 routes (2.3 miles) or 57% would continue to be managed as open, while no routes would be limited to administrative use only and 3 routes (0.6 miles) or 43% routes would be closed. The potential indirect, long-term effect of these open routes on outstandingly remarkable values of the WSR-eligible areas they bound would be minor, as signing, appropriate barriers, and regular monitoring would deter illegal, off-road travel, minimizing the potential for damaging or adversely affecting those natural values (43 CFR 8342.1(a)(d)).

O.6.2.21.2 Alternative B

Under Alternative B, route designations would be the same as Alternative A. The impacts of these route designations would be the same as Alternative A.

Of the 7 routes that follow WSR-eligible boundaries in the TMAs, under Alternative B, 3 routes (1.8 miles) or 43% would continue to be managed as open, while 1 route (0.5 miles) or 14% would be limited to administrative use only and 3 routes (0.6 miles) or 43% routes would be closed. The potential indirect, long-term effect of the Alternative B route designations on

outstandingly remarkable values of the WSR-eligible areas they bound would be minor, as open routes would only be reduced by 14%. However, signing, appropriate barriers, and regular monitoring would help to deter illegal, off-road travel, minimizing the potential for damaging or adversely affecting those natural values (43 CFR 8342.1(a)(d)).

O.6.2.21.3 Alternative C

Under Alternative C, of the 6 routes accessing WSR-eligible segments, 6 routes (4.8 miles) or 100% would be managed as open, while no routes would be limited to administrative use only or closed. The potential effect of the open routes on outstandingly remarkable values of the WSR-eligible areas would be a 33% increase in open routes accessing these areas, which would be a minor to moderate, indirect, long-term impact. However, signing, appropriate barriers, and regular monitoring would, to a minor to moderate degree, help deter illegal, off-road travel, minimizing the potential for damaging or adversely affecting those natural values (43 CFR 8342.1(a)(d)).

Of the 7 routes that follow WSR-eligible boundaries in the TMAs, under Alternative C, 7 routes (2.9 miles) or 100% would continue to be managed as open, while routes would be limited to administrative use only or closed. The potential indirect, long-term moderate effect of the Alternative C route designations on outstandingly remarkable values of the WSR-eligible areas they bound would be a 43% increase in open routes accessing these areas. However, signing, appropriate barriers, and regular monitoring would, to a minor to moderate degree, help to deter illegal, off-road travel, minimizing the potential for damaging or adversely affecting those natural values (43 CFR 8342.1(a)(d)).

O.6.2.21.4 Alternative D

Under Alternative D, route designations for routes accessing WSR-eligible segments would be the same as Alternative A and B for open routes; however, 1 route (0.2 miles) or 16.7% would be limited to administrative use only rather than closed. The impacts of these route designations would be essentially the same as Alternative A and B.

Under Alternative D, route designations for routes that follow WSR-eligible boundaries in the TMAs would be the same as Alternative A for open routes; however, 2 routes (0.4 miles) or 29% would be limited to administrative use only rather than closed. The impacts of these route designations would be essentially the same as Alternative A.

O.6.3 Cumulative Impacts from Travel and Transportation

The cumulative impact analysis area for the comprehensive travel and transportation system is the BiFO-wide Planning Area and immediately adjacent areas of state and local road networks. Cumulative impacts on transportation systems for both non-motorized and motorized access would result from projects that increase travel and traffic and subsequent transportation improvements and maintenance. Projects that could increase traffic would result from designating and marketing routes as well as developing and transporting mineral and energy resources on public lands and management of transportation routes on adjacent lands. Cumulative impacts on trails and travel management would also primarily occur from actions that facilitate, restrict, or preclude both non-motorized and motorized access.

Management actions that restrict use would limit the degree of travel opportunities and the ability to access certain portions of the planning area for the public. However, in most cases, while motorized access on certain routes would be restricted to the public, administrative use for authorized uses would continue to be allowed as well as non-motorized access would also continue on those routes. The continued maintenance of federal and state highways would provide arterial connections to BLM system roads. County-maintained routes that connect federal and state highways to BLM system routes would maintain and improve access to the decision area's resources. Past, present, and reasonably foreseeable future nonfederal actions have affected and would continue to affect travel management within the planning area. These actions, which include urban development patterns, the continuing growth of both non-motorized and motorized vehicle-based recreation, planned road and highway projects, trail development projects and population growth, are expected to increase demand and construction of transportation routes within and near the BiFO planning area.

Actions that would limit or restrict transportation project design (e.g., VRM designations, land use closures, NSO stipulations) would result in impacts on transportation and access. The actions and activities considered in this analysis, including land use restrictions for the preservation of sensitive resources, would not result in the overall inability of BLM to provide public access.

Under all alternatives, reasonably foreseeable development (oil and gas), resource use assumptions, such as wind energy potential, and recreation demand, in addition to land use authorizations and projects, could increase the need to improve or maintain the transportation system. Roads and pipelines constructed for these programs could expand the existing transportation system network and facilitate motorized access in areas currently not available.

Alternatives A and C could have the greatest incremental impact on the improvements and maintenance of the transportation system and for general access needs because they propose the most potential development and propose fewer restrictions or constraints on limiting the travel network. The degree of impact would be highest under Alternative A because of fewer land use restrictions for the protection of sensitive resources would be considered, there are less route designations and motorized routes would be limited to existing roads and trails, except in those areas where travel designations have occurred. Conversely, the implementation of increased restrictions specifically to motorized vehicular use, identified to protect sensitive resources under Alternative B, would result in the greatest level of impact on motorized transportation and access of the Alternatives, but provides more protection to fragile or sensitive resources. Alternative C, overall, would have fewest restrictions on motorized travel and access and potentially the greatest impacts to fragile resources, as compared to Alternative B and D, while having the same amount of designated non-motorized trails. However, Alternative C would have more restrictions to motorized travel than under Alternative A, as more route specific travel designations would be proposed. Alternative D has slightly less restrictions proposed, than under Alternative B and provides management flexibility and adaptability, based on resource conditions and indicators, while having the same non-motorized trail system.

0.6.4 Irreversible and Irretrievable Commitment of Resources

Section 1502.16 of CEQ regulations requires that the discussion of environmental consequences include a description of "...any irreversible or irretrievable commitment of resources which

would be involved in the proposal should it be implemented.” An irreversible commitment of resources refers to decisions affecting the use of resources (generally nonrenewable resources) that limit the ability for future generations to use that resource. For example, extraction and processing of sand and gravel, as part of an aggregate mining operation is considered an irreversible commitment of salable minerals. This action is irreversible because once the minerals are extracted and processed; they cannot be renewed in the ground within a reasonable timeframe, and are therefore unavailable for use by future generations. An irretrievable commitment of resources refers to decisions resulting in the loss of production or use of a resource. For example, a decision not to treat juniper encroachment into adjacent sagebrush habitat results in the irretrievable loss of forage production from the grassland community. This action is not irreversible, because a treatment applied to the encroaching juniper could restore the forage production of the sagebrush habitat.

All of the alternatives contain a range of management actions that may lead to future irreversible and irretrievable commitments of those resources, once a decision is made. Decisions made in the selected plan serve to guide future actions and subsequent site-specific decisions. Following the signing of the ROD for the Billings/Pompeys Pillar RMP revision, implementation plans will be developed and implemented by the BLM. Implementation decisions require appropriate project specific planning and NEPA analysis, and constitute BLM’s final approval authorizing on-the-ground activities to proceed. Assuming subsequent implementation decisions authorize activity- or project-specific plans, irreversible and irretrievable commitment of resources would occur. For most resources, the RMP will provide objectives for management and guidance for future implementation level decisions to minimize the potential for irreversible and irretrievable commitments of resources.

No irreversible or irretrievable commitment of resources are anticipated for air quality, visual resources, lands and realty, renewable energy, ROW and corridors, recreation, special designations, and socioeconomic resources. The Proposed RMP would result in surface-disturbing activities, including dispersed recreation, recreational OHV use, fire and fuels management, mineral and energy development, livestock grazing, and infrastructure development that could result in loss of irreversible or irretrievable resources. These surface-disturbing activities may permanently alter soil, water, and vegetation, visual resources, relevant and important values, ACECs, transportation and travel uses, tentative classifications of WSR segments, and potentially damage cultural and paleontological resources.

Habitats in nonfunctional condition may sustain sufficient degradation that they may no longer be capable of being restored to original site potential. If this change results in significant soil loss through channel down-cutting or incisement, or if riparian-wetland obligate plant species are replaced by facultative or upland species, these could represent irretrievable and irreversible impacts that cannot be corrected even through costly rehabilitation efforts.

O.6.5 Unavoidable Adverse Impacts

The NEPA §102(2)C requires disclosure of any adverse environmental effects that cannot be avoided should the proposed plan be implemented. Unavoidable adverse impacts are those that remain following the implementation of mitigation measures or impacts for which there are no mitigation measures. Some unavoidable adverse impacts would occur as a result of

implementing the Billings/Pompeys Pillar RMP and travel related implementation level actions. Others are a result of public use of BLM land within the planning area. This section describes the potential unavoidable adverse impacts that may occur from these implementation level decisions.

Implementing the Proposed RMP would cause some unavoidable adverse impacts. Surface-disturbing activities could cause unavoidable adverse impacts. Although these impacts are mitigated to the extent possible, unavoidable damage is inevitable. Conversion of vegetation resources to other uses, such as transportation and mineral and energy development, reduces the quantity of vegetation resources. Energy and mineral resource extraction on public lands potentially creates air quality, water quality, visual intrusions, soil erosion, and soil compaction problems. Portions of the resource area with more intense recreational use experience scarring, increased soil erosion, and loss of vegetation. Although these impacts are unavoidable, they are usually concentrated in previously disturbed areas, which reduce the spread of impacts to more remote or less frequented areas.

Travel on or off roads and trails could cause soil compaction and loss of protective vegetation cover, thereby increasing soil erosion and fugitive dust emissions. Increased soil erosion can adversely impact riparian wetland areas through increased soil sedimentation. Weeds introduced by these and other management activities could cause a reduction in canopy coverage and leave soils subject to increased erosion as well.

Any facility developments, including but not limited to recreation sites, livestock water and other range improvements, and utility and road facilities, that are not properly restored even after mitigation measures are applied, could result in increased soil erosion. Inadvertent damage to, or loss of, cultural and paleontological resources from increased recreational use, OHV use, surface-disturbing activities, or natural deterioration is unavoidable. Although mitigation measures could be implemented for scientific data recovery (leaving portions of cultural resource sites undisturbed for future exploration), the area of excavation would be destroyed and future research would not be possible. The number of cultural sites or paleontological localities anticipated to be inadvertently damaged is unknown, but it is anticipated to be very low given the management decisions in the Proposed RMP.

Conflicts between user types, such as motorized recreationists and recreationists who seek more primitive types of recreation and motorized users who share recreation areas, are unavoidable adverse impacts. As recreation demand increases and becomes more varied, recreational use disperses to other areas of the lands managed by the BiFO, which could create conflicts with existing uses of those areas.

Increasing recreation use can cause conflicts with other resource uses, such as livestock grazing or forest and woodland products harvest. Recreation use and experiences could conflict with the results of livestock grazing, mineral extraction and timber harvest.

Under the DRMP/DEIS, for those alternatives in which mineral development is expected to be higher, recreational use and/or enjoyment of travel routes, could be displaced from those areas, which would increase the extent and frequency of conflict between these incompatible user groups. Numerous land use restrictions, imposed throughout the BiFO to protect sensitive resources and other important values, by their nature, impact the ability of operators, individuals,

and groups who use the public lands to do so freely without limitations. Although attempts are made to minimize these impacts by limiting the level of protection necessary to accomplish management objectives and by providing alternative use areas for impacted activities, some adverse impacts to such users are simply unavoidable.

O.7 Implementation-Level Travel/Transportation Plans

Following issuance of the ROD, implementation and management of the defined travel management network (a system of areas, roads/routes available for public use, and the specific limitations placed on use) will be used to develop future Travel Management Plans for each TPA. These Travel Management Plans (implementation plans) will be developed within 3-5 years of issuance of the ROD and will coordinate the implementation decisions over the life of the plan.

The components of the TPA implementation-level plans include (but not limited to):

- a) Maps that display the geographic units (TPAs) and display roads and trails for all travel modes, including road and trail types and designations.
- b) Definitions and additional limitations for specific roads and trails (defined in 43 CFR 8340.0-5(g)).
- c) A set of guidelines for management, monitoring and maintenance of the travel system
- d) A set of indicators to guide future plan maintenance, modifications or revisions related to the travel management network.
- e) A list of easements and rights-of-way (to be issued to the BLM or others) to maintain the existing road and trail network providing public land access.
- f) A schedule for periodic reviews of travel management networks to ensure that current resource and travel management objectives are being met (see 43 CFR 8342.3).
- g) Decisions will be based on additional site specific NEPA analysis.

The Travel Management Plans will tier to and/or include the specific management actions common to the TPAs, as well any management actions specific to a specific TPA.

O.8 Preliminary Route Network – Existing routes without formal evaluations.

Many of the geographic locales omitted from travel planning/route designations were isolated parcels and/or parcels with no current public access. However, in areas where resource or other use-conflicts arise or impacts to resources would arise from travel modes, travel planning and would be initiated, and would follow a similar planning process defined above. Travel management, for both motorized and mechanized modes would continue to be limited to existing roads and trails. Decisions would be documented by the staff with rationale and incorporated in

the Travel Management system as interim decisions until formal decisions could be developed through a planning process.

O.9 Preliminary Route Network – outside of TMAs

Travel management, for both motorized and mechanized modes, outside of the TMAs would continue to be limited to existing roads and trails. Management actions identified through the ROD would be identified and implemented. Many of the geographic locales omitted from travel planning/route designations were isolated parcels and/or parcels with no current public access. However, in areas where resource or other use-conflicts arise or impacts to resources occur from travel modes, travel planning would be initiated, and would follow a similar planning process for the TMAs (defined above).

O.10 Plan Maintenance and Changes to Route Designations

The Proposed RMP includes criteria to be considered when conducting plan maintenance, amendments, or revisions related to area designations or the approved road and trail system within “TPA” areas. Future conditions may require the designation or construction of new routes or closure of existing routes to better address resources and resource use conflicts. Actual route designations within the Limited category can be modified without completing a plan amendment, although compliance with the National Environmental Policy Act (of 1969) (NEPA) is still required.

The BiFO is aware that the current inventory of roads and trails being used for the route designation process is not 100 percent correct or complete. The BiFO anticipates that in spite of intensive quality control and review, there will be errors. Some undesirable unintended consequences may result from the final configuration of the Travel Route Designations. Adjustments may be needed to make the travel designation compatible with adjacent landowners. For example, edge matching has occurred with adjacent BLM and United States Forest Service (USFS) jurisdictions, but continued review and coordination will be required as changes resulting from continued travel planning occur in the future. Routes currently not in the inventory may need to be added and designated as part of the implementation process. An adaptive management process that will allow adjustments to the final decision and will maintain the validity and integrity of the analyses and public disclosure presented in the Final EIS is outlined below. This process includes pre-defining actions for the disposition of routes discovered after the decision date, adding new routes, correcting errors, and adjusting the route designations that lead to undesirable, unintended consequences.

Plan maintenance can be accomplished through program and project analysis as well as additional land use planning (e.g., activity-level planning). BLM will collaborate with affected and interested parties in evaluating the designated route network for suitability for active travel and transportation management and envisioning potential changes in the existing system or adding new trails that would help meet current and future demands. In conducting such evaluations, the following factors would be considered:

- The travel management plan should be flexible to allow designating existing routes that were not identified in the baseline data.
- The travel management plan should be flexible about the location of new routes needed to provide access for new activities, to new areas, or to reduce resource and/or user conflicts.
- Route designations would be coordinated and made consistent with criteria and resource decisions identified in the Proposed RMP.
- Where and when appropriate, plan, develop, and designate (in cooperation with user groups and cooperating agencies) new routes and trails that enhance and expand recreational opportunities and encourage responsible use.
- Routes suitable for various categories of use (e.g., motorcycles, all-terrain vehicles [ATVs], dune buggies, 4-wheel drive touring vehicles, horse, foot, bike, etc.) and opportunities for joint trail use as well as even exclusive use by individual types of users .
- Needs for parking, trailheads, informational and directional signs, mapping and profiling, and development of brochures or other materials for public dissemination.
- Opportunities to tie into existing or planned route networks.
- Public land roads or trails determined to cause considerable adverse effects or to constitute a nuisance or threat to public safety would be considered for relocation or closure and rehabilitation after appropriate coordination with applicable agencies and partners.
- Those areas managed as closed will not be available for new motorized designation.
- Measures needed to meet the objectives stated in the Proposed RMP (e.g., cultural resources, soil resources, special status species, and recreation).

Regulations (at 43 Code of Federal Regulations (CFR) 8342.2 and elsewhere) require BLM to monitor the effects of OHV use. Changes made to the Travel and Transportation Plan would be based on the information obtained through monitoring. Site-specific NEPA documentation is required for changing the route designations in this Travel Plan, but not an RMP Plan Amendment

O.11 Implementation Process

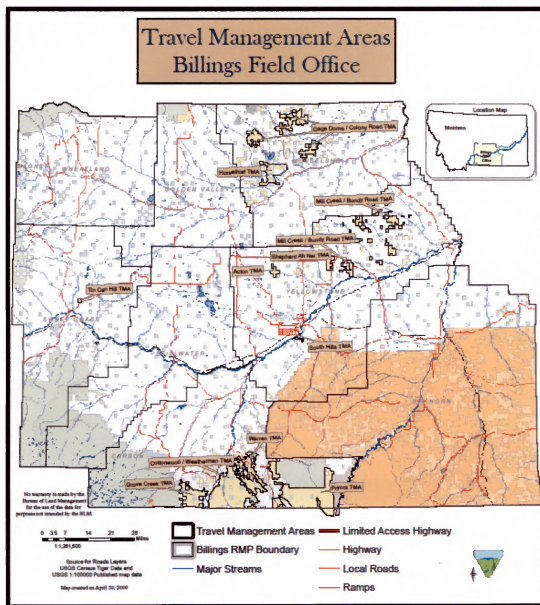
Implementation decisions are actions that BLM takes to implement land use plans and generally constitute BLM's final approval for allowing on-the-ground actions to proceed. These types of decisions, which are based on site-specific planning and NEPA analyses, are subject to the administrative remedies set forth in the regulations that apply to each BLM resource

management program. Implementation decisions are not subject to protest under the planning regulations; rather, they are subject to various administrative remedies. Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process or other administrative review as prescribed by specific resource program regulations after BLM resolves the protests to land use plan decisions and makes a decision to adopt or amend the Proposed RMP. Travel planning and the implementation process include the following:

- The monitoring of the transportation system and modifying as appropriate
- A map of roads and trails for all travel modes
- Notations of any limitation for specific roads and trails
- Criteria to select or reject roads and trails in the final travel management network, add new roads or trails, and specify limitations
- Guidelines for management, monitoring, and maintenance of the transportation system
- Needed easements and rights-of-ways (to be issued to BLM or others) to maintain the existing road and trail network providing public land access.

The Proposed RMP completes the initial route designation component of the Travel Management Plan and implementation process. These routes would be the initial basis for signing and enforcement. The BiFO will prioritize additional implementation actions, resources, and geographic areas based on RMP goals and objectives and the guidelines noted above.

Travel Management Area Map - Overview



Figures

Travel Management Planning

Figure 4.1a: Summary of Route/Miles by TMA

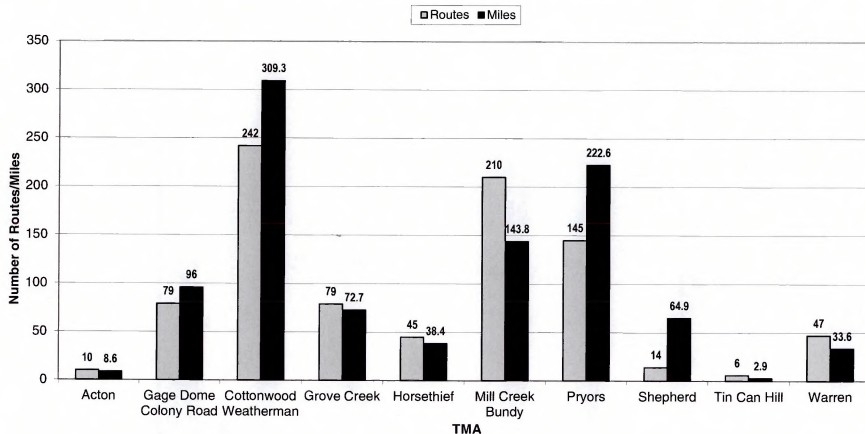


Figure 4.1.1a: Alternative A Route Designations for All TMAs

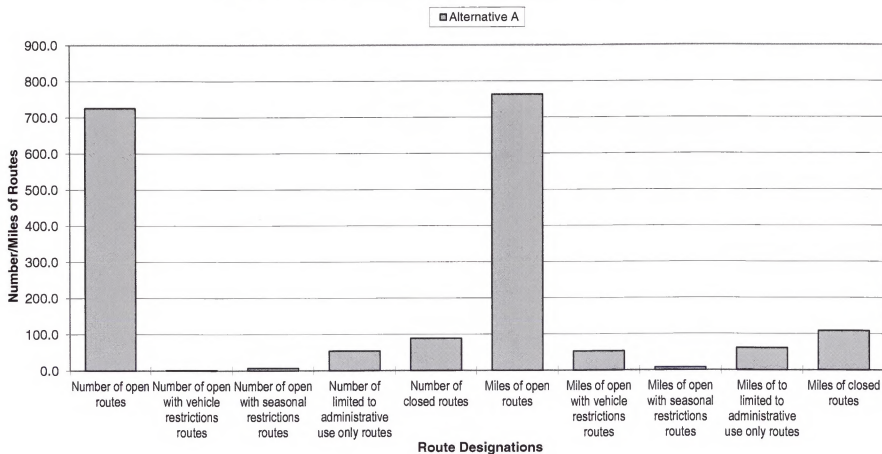


Figure 4.1.1b: Alternative A 'Open' Route Densities by TMA

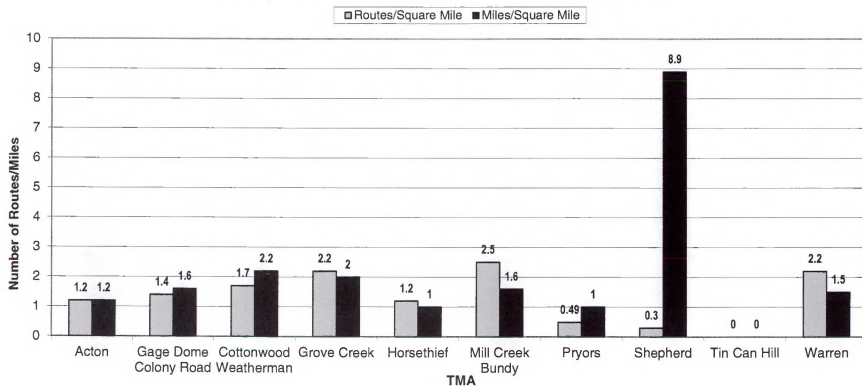


Figure 4.1.2a: Alternative B Route Designations for All TMAs (Compared to Alt. A)

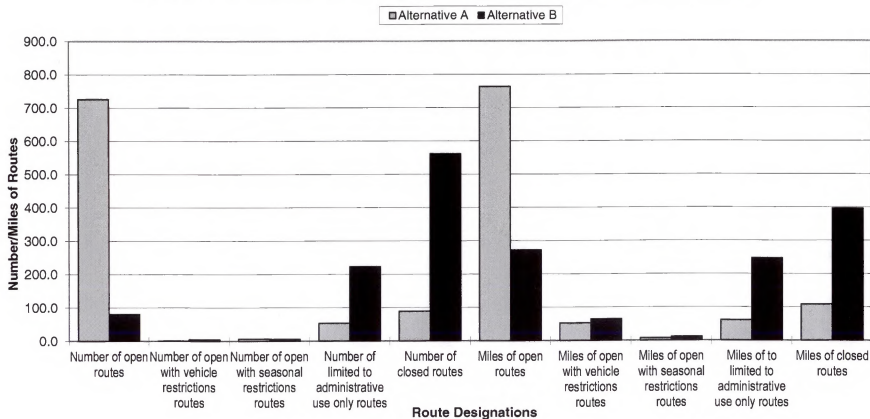


Figure 4.1.2b: Alternative B 'Open' Route Densities by TMA (compared to Alt. A)

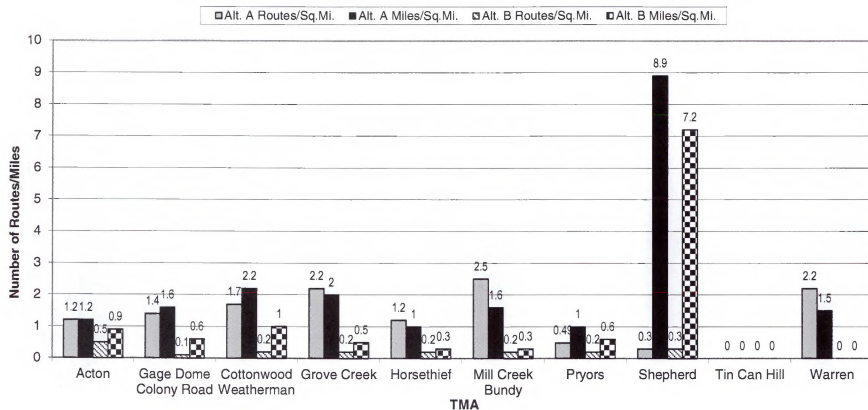


Figure 4.1.3a: Alternative C Route Designations for All TMAs (Compared to Alt. A)

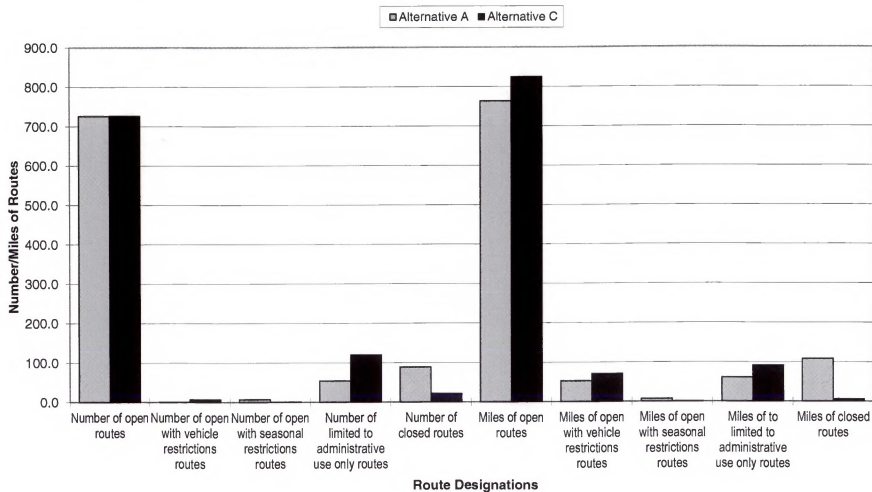


Figure 4.1.3b: Alternative C 'Open' Route Densities by TMA (compared to Alt. A)

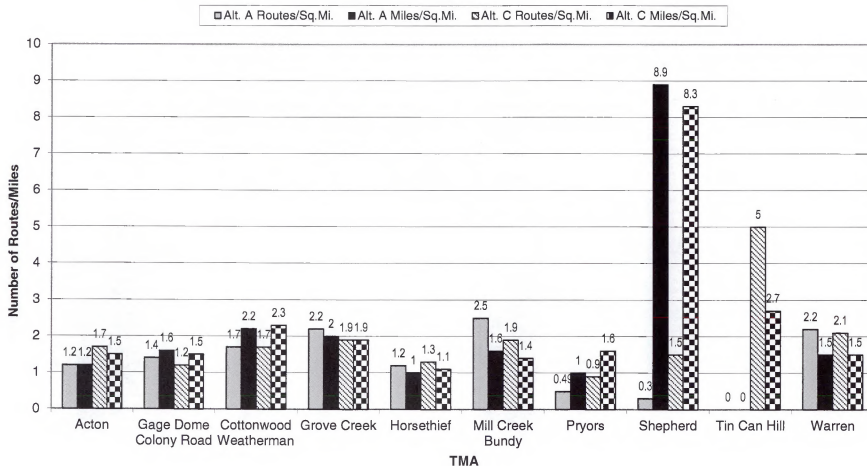


Figure 4.1.4a: Alternative D Route Designations for All TMAs (Compared to Alt. A)

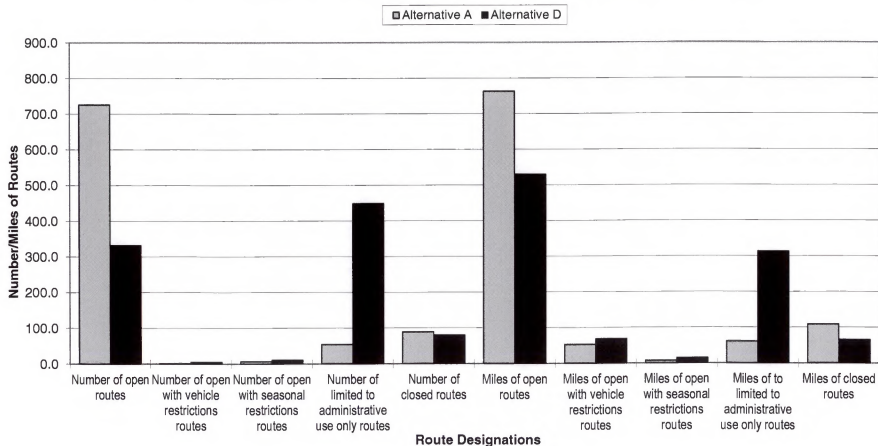
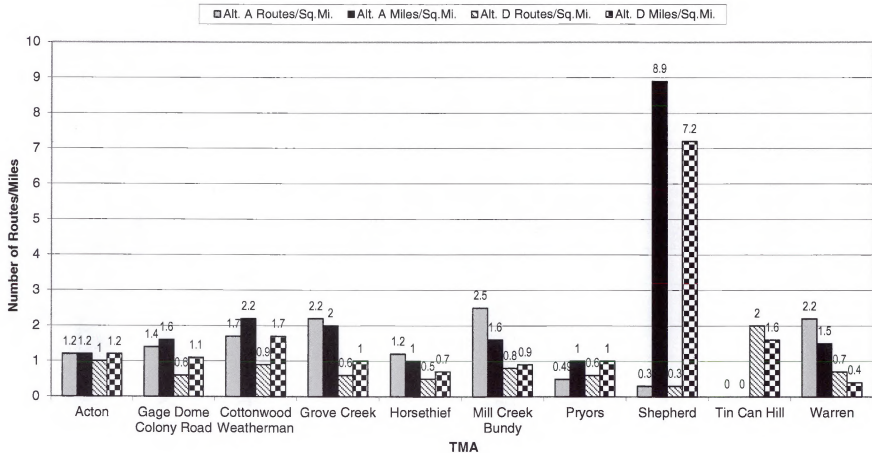


Figure 4.1.4b: Alternative D 'Open' Route Densities by TMA (compared to Alt. A)



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